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STUDIES OF COLLEGE ENVIRONMENTS.
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IN AN ATTEMPT TO INCREASE FUNDAMENTAL KNOWLEDGE ABOUT THE PSYCHOLOGICAL CHARACTERISTICS OF COLLEGE ENVIRONMENTS, THOSE CHARACTERISTICS WERE RELATED TO STUDENT ATTRIBUTES AND TO CRITERIA OF INSTITUTIONAL EXCELLENCE. THE MEASURING INSTRUMENTS USED FOR THIS PURPOSE WERE THE ACTIVITIES INDEX (A PERSONALITY MEASURE) AND THE COLLEGE CHARACTERISTICS INDEX (A MEASURE OF ENVIRONMENTAL CHARACTERISTICS). SAMPLES OF STUDENTS ATTENDING COLLEGES OF ALL SIZES AND TYPES WERE ADMINISTERED THESE QUESTIONNAIRES. RESULTS WERE ANALYZED IN ORDER TO CLARIFY THE MAIN PSYCHOMETRIC PROPERTIES OF THE TWO INSTRUMENTS AS APPLIED TO COLLEGE POPULATIONS, THE EFFICACY OF FACTOR SCORES, AND THE RELATIONSHIP OF MEASURES OF INSTITUTIONAL PRESS AND STUDENT NEEDS TO EDUCATIONAL OBJECTIVES AND THEIR ACHIEVEMENT. THE DATA INDICATED THAT INCOMING FRESHMEN GENERALLY SHARE STEREOTYPED EXPECTATIONS OF COLLEGE LIFE THAT COMBINE SOME OF THE MOST DISTINCTIVE ACADEMIC CHARACTERISTICS OF THE ELITE LIBERAL ARTS COLLEGES WITH THE COMMUNITY SPIRIT, EFFICIENCY, AND SOCIAL ORDERLINESS OF THE CHURCH-RELATED SCHOOLS, CAUSING A SUBSEQUENT FRUSTRATION AND DISILLUSIONMENT ON THE PART OF STUDENTS. IT WAS PROPOSED THAT, IN ADDITION TO SUCH CONVENTIONAL CRITERIA USED FOR EVALUATING COLLEGES AS PLANT AND PERSONNEL, OTHER MEASURES OF QUANTIFYING INSTITUTIONAL NUANCES BE USED INCLUDING THOSE USED IN THIS STUDY. (GD)

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Cooperative Research Project No. 378

George G. Stern

Syracuse University
Syracuse, New York

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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1966

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Chapter I

Introduction

Conventional criteria for evaluating colleges and universities emphasize the morphological characteristics of these organizations, in much the same sense that the taxonomic schemes of the naturalist are based on the classification of readily observable parts and pieces of organisms. The Association of American Universities, the six regional accrediting associations, the various professional groups, and the National Commission on Accrediting are among the more significant sources of normative procedures for the comparison of educational institutions. The bases for classification developed by these agencies have relied heavily on statistical appraisals of easily enumerated characteristics of plant and personnel including, among other things: faculty degrees, teaching load, salary schedules, tenure, library acquisitions, buildings and grounds, scholarship and loan funds, endowment assets, amount and sources of current income, etc.

The value of such measures, and of the role played by the accrediting association, has been dramatized forcefully in medical education. The American Medical Association established a Council on Medical Education in 1904, began classifying schools by 1907 and, following the Flexner report on medical education in 1910, subsequently adopted standards resulting in the complete elimination of inadequate schools.

But the standards to be applied in medical school are not relevant to a seminary, any more than those for the latter are relevant to the liberal arts college, or the large state multiversity. The common questions, appropriate to all educational institutions, are not *What are its physical assets*? but *What is it trying to accomplish*?, not *How much has it got*? but *How well does it achieve its objectives*?

These are the questions which have more typically concerned the educational philosopher or essayist, unconstrained by the need to quantify. They are, it will be seen, directed to process and purpose rather than appearances. The techniques for quantifying functional properties of institutional systems are only just beginning to emerge, however. Educational administration is still based firmly on homiletics and proscription, as are its sister arts in business and government. Formal investigation of relationships between administrative processes, organizational structure, and other aspects of the institutional environment are very little beyond the rudimentary stage to which they were raised by the Western Electric studies well over a quarter century ago.

The problem with respect to colleges is essentially one of finding better ways of characterizing their differences, those differences in particular that relate to what the college does to students. Although the ultimate end towards which the Syracuse studies of college environments are directed involves more than the description of colleges or the development of new criteria for evaluating them, these have been their immediate outcome. This report is limited to these specific aspects of the Syracuse studies, and to their potential contribution to higher education. It is hoped, however, that their relevance to the study of other levels of education, other types of social organizations, and to the prediction of behavior and performance of any institutional incumbent--student, worker, or community resident--will also be apparent.

Describing the College Learning Environment

Statements of the objectives of higher education properly stress the acquisition of knowledge and the development of intellectual skills and abilities. In addition to these goals a concern is sometimes expressed for achieving growth in attitudes and values, personal and social development, citizenship, civic responsibility, esthetic appreciation, and similar supracognitive attributes. In relation to such complex objectives, a college community must be viewed as more than classrooms, professors, libraries or laboratories. It is also a network of interpersonal relationships, of social and public events, of student government and publications, of religious activities, of housing and eating, of counseling, and of curricular choices.

College students differ from one another as distinctive personalities, and the same thing has been said of the collectivity of students represented in a student body as well as of the institution to which they belong. The college community may be regarded as a system of pressures, practices and policies intended to influence the development of students toward the attainment of institutional objectives. The distinctive atmosphere of a college, and the differences between colleges, may be attributable in part to the different ways in which such systems can be organized--to subtle differences in rules and regulations, rewards and restrictions, classroom climate, patterns of personal and social activity, and in other media through which the behavior of the individual student is shaped.

Descriptive Analyses

Such institutional nuances have been brought out most clearly in vignettes of schools prepared by trained observers. Some outstanding examples are to be found in the series by Boroff (1962) published originally in Harper's magazine, or those by Riesman, Jencks, Becker and others prepared for The American College (Sanford, 1962). There is a very substantial body of literature of this type, accessible in part through the summaries of Barton (1961), Pace and McFee (1960), and Stern (1963b,pp. 429 ff).

Regardless of their origin, whether in sociology, anthropology or journalism, these often make for stimulating reading. The best of them may perhaps be not unfairly compared with the works of such writers as Mary McCarthy, Bernard Malamud, or C.P. Snow who, having known the academic life themselves, sometimes choose the college as a setting for their novels and thereby transmit something of the essence of a particular type of institution. Somewhat further afield, but so priceless and yet so little known in this country that I cannot resist citing them here, are the delightful essays of Cornford (1953) on the politics of British academia, first written in 1908 but still fresh despite the distance in time and space.

Although these materials are a rich source of insights into college life, their lack of formal structure and essential non-reproducibility make them valueless for normative purposes.

Correlational Analyses

A more systematic way of looking at schools can be accomplished by specifying some enumerable characteristic presumed to be associated with academic quality, assigning a value to each school in the study, and then analyzing the resulting distribution of schools with the hope of discovering relationships not previously known. Indexes for this purpose have been based on such diverse things as the percentage of graduates going on to receive the PhD (Knapp and Greenbaum, 1953), the extent to which authoritarian attitudes are reduced and critical thinking is increased (Dressel & Mayhew, 1954), student retention rate (Thistlethwaite, 1963a), or the relative distribution of students among selected major fields (Astin, 1963b).

Criteria like these oversimplify, unfortunately, and are further limited by their high correlation with scholastic aptitude. As a result we cannot be sure whether the schools are being differentiated on the basis of any definitive educational practice other than the relative superiority of their students and the effectiveness of their admissions practices.

Environmental Taxonomy

The basic limitation of the descriptive or ethnographic approach to institutions is that it is adimensional. The correlational studies on the other hand are restricted by their unidimensionality. The Sanford (1962) volume on the American College represents the current level of sophistication achieved by social scientists in the study of educational processes. Although it is evident that some progress has been made, the lack of a generally acceptable systematic taxonomy for characterizing institutional situations seems to be one of the factors limiting further development at the present time.

A taxonomy is the framework of a model of relationships. With the model as a guide for the collection of data, any confirmation of orderliness provides a point of departure for further revision and extension. In the absence of a formal model situational analysis remains at the same level as did personality research in the hands of literary characterologists--sometimes fascinating, but always futile.

It was Kurt Lewin's contention that:

> "Every scientific psychology must take into account whole situations, i.e., the state of both person and environment. This implies that it is necessary to find methods of representing person and environment in common terms as parts of one situation....in other words our concepts have to represent the interrelationship of conditions." (Lewin, 1936, pp. 12-13).

Whether this is in fact a necessary condition is not entirely clear, although I have argued elsewhere that it is (Stern, 1964) largely on the grounds that the psychological significance of either the person or the environment can only be inferred from one source--behavior. Ergo, since both are inferred from the same source, a common taxonomy must be employed for both.

Lewin's argument rested on methodological as well as theoretical grounds. He reasoned that "(1) Only those entities which have the same conceptual dimension can be compared as to their magnitude. (2) Everything which has the same conceptual dimensions can be compared quantitatively; its magnitude can be measured, in principle, with the same units of measurement." (Lewin, 1951, p. 37). This requirement has not been found necessary in the natural sciences, although it may be that our problem is different insofar as personological variables are so largely teleological (functional) rather than morphological (structural). Regardless of the ultimate outcome, what is clear and generally agreed upon is that it is a psychological environment that we are working with, and the constructs that are needed will be essentially psychological.

Various psychologists and sociologists--Angyal, Parsons, Sears, Murphy, among others--have adopted such a transactional viewpoint in principle. But few have gone beyond the point of expanding on the theoretical necessity for such a position. At best, attention has been called to general classes of phenomena but the specific dimensions to be subsumed within them have been left unspecified.

Parsons and Shils (1951) have provided a particularly detailed system of generators, at one remove from a working model. Floyd Allport (1955) and William Schutz (1958) have each come closer to operational schemes, although both of these lack the scope necessary for a sustained analysis. The only formal system which lends itself to a detailed representation of the person and the environment, as it happens in common conceptual terms, is the need-press model developed some years ago by H.A. Murray (1938) and his associates. It is this model to which we now must turn.

Chapter II

The College Study

Purpose

The research program described in this report was undertaken in order to increase fundamental knowledge about the psychological characteristics of college environments, to relate such characteristics to student attributes and to criteria of institutional excellence, and to explore ways in which these understandings might be applied in order to promote effective education.

Two measuring instruments were employed for this purpose: (1) the Activities Index, a personality measure, and (2) the College Characteristics Index, a measure of environmental characteristics. Samples of students attending colleges of all sizes and types throughout the United States were administered these questionnaires and the results analyzed in order to clarify the following specific questions:

1. What are the main psychometric properties of these two instruments as applied to college populations: item discrimination, scale homogeneity, scale reliability, and factor composition?
2. Can the factor scores be used to classify schools and student bodies? Are the responses to the two instruments independent, or is a student's perception of his environment a projection of his own needs? Are the factor scores reliable? Do they discriminate adequately between various types of institutions?
3. Are these measures of institutional press and student personality needs related to educational objectives and their achievement?
4. What is the relation between the identification of environmental press for a college or university as a whole and membership in various subcultures within the institution?
5. How is correspondence between personal needs and environmental press best expressed and quantified? How does the individual's perception of the press in an environment relate to his own pattern of personality needs? Is correspondence between needs and press a predictor of successful adaptation in the institution?

Sampling Procedures

Final revisions of the AI and CCI were completed in November 1958 and the administration of the two instruments in various colleges cooperating with this study was begun soon after. The total list of schools and programs which have participated in this testing program from that date to the present is given in Appendix D with a breakdown by student sex and major. There are some 100 institutions represented here and close to 10,000 students.

The largest single block of these (26 in all) were obtained with the assistance of James Wilson, Director of the Study of Cooperative Education under the sponsorship of the Fund for the Advancement of Education (Wilson and Lyons, 1961). The remainder became available in some instances in response to direct solicitation, others as self-referring volunteers, and the balance as the result of locally initiated studies by a college administrative staff member, faculty, or doctoral candidate. There are, in addition, a very substantial but undetermined number of institutions to which Index materials have been supplied for local research but from whom no further word has been received.

The sampling procedures involved in the collection of data from the schools listed in Appendix D can only be described as unsystematic. In most instances the actual arrangements made by the local supervisor of the testing process, almost invariably a member of the faculty in psychology or education, are unknown. At the smaller schools samples were sometimes obtained at the living centers. In the larger ones they were often made up of classes of students that happened to be available on a given day, although there are some at which more careful efforts were made to obtain samples representative of the institution by sex, class level and major academic subdivision. A few schools were represented by their total senior class.

Because of the haphazard sampling involved, both of colleges in general and of students within those which were obtained, further resampling was resorted to for the purposes of actual data analysis. Two basic samples were constructed, one consisting of a matched sample of students who had taken both the AI and CCI, the other an expanded group of institutions considered to constitute a more representative sample of schools from which to calculate norms for each instrument.

The Matched Sample

A total of 1076 students were found who had responded to both the AI and the CCI at their respective schools and were non-transfer upper division matriculants. They came from 23 different colleges, as shown in Table 1, and were approximately equally divided between men and women. Nearly four-fifths of the group were seniors, but a small number of sophomores were also inadvertently included.

This sample was drawn for the purpose of studying relationships between the two instruments referred to in item 2 above. Scale intercorrelations within and between Indexes were factored in order to establish the independence of the two sets of responses and the factor composition of each of them.

The Norm Group Samples

Although the 23 schools in the matched sample are fairly well distributed geographically and by administrative type and size, they are not as adequate a sampling of higher education as was possible from the data available at the time. Nine more schools at which the CCI alone had been administered were added to bring the total up to 32 schools. As can be seen from Table 1, despite the obvious limitations of this procedure, this is a reasonably well-diversified group of institutions. Included among them are some of the smallest as well as largest schools in the country. There are some women's colleges as well as coeducational institutions. Three different types of liberal arts settings are included: independent, denominational (both Protestant and Catholic), and university-affiliated. And, finally, all available data from undergraduate technical programs were incorporated in the sample, representing engineering, business administration, and

Table 1

Description of Study Samples: Norm Groups and Matched Sample

School	Activities Index Norm Group						College Characteristics Index Norm Group						Matched AI and CCI Group[a]					
	N	Sex		Level			N	Sex		Level			N	Sex		Level		
		M	F	So	Jr	Sr		M	F	So	Jr	Sr		M	F	So	Jr	Sr
Independent Liberal Arts																		
Antioch C. (Ohio)	39	28	11			39	61	41	20		20	41	38	28	10			38
Bennington C. (Vt.)	36		36			36	64		64		29	35	35		35			35
Oberlin C. (Ohio)	100	50	50			100	100	50	50			100	100	50	50			100
Sarah Lawrence C. (N. Y.)	31		31			31	53		53		25	28	26		26			26
Shimer C. (Ill.)	54	34	20	27	17	10	67	46	21	37	20	10	53	34	19	26	17	10
Sweet Briar C. (Va.)	--						54		54		25	29	--					
Wesleyan U. (Conn.)	--						61	61			61		--					
Subtotal	260	112	148	27	17	216	460	198	262	37	180	243	252	112	140	26	17	209
Denominational																		
Denison U (Bapt. Ohio)	30	18	12			30	39	25	14		14	25	24	16	8			24
E. Mennonite (Menon, Va.)	35	14	21		12	23	34	16	18		13	21	31	13	18		11	20
Heidelberg C. (Ev Ref, Ohio)	--						91	55	36		55	36	--					
Marian C. (RC, Wisc)	--						32		32		11	21	21		21		11	10
NW Christian (Disc, Ore.)	26	6	20		17	9	25	7	18		15	10	25	6	19		16	9
Randolph-Macon WC (Meth, Va.)	50		50			50	49		49			49	49		49			49
Seton Hill C (RC, Pa)	99		99		22	77	99		99		22	77	99		99		22	77
W. Va. Wesleyan (Meth, Va)	--						28	19	9		23	5	--					
Subtotal	240	38	202		51	189	397	122	275		153	244	249	35	214		60	189

Table 1--Continued

School	Activities Index Norm Group						College Characteristics Index Norm Group						Matched AI and CCI Group[a]					
	N	Sex		Level			N	Sex		Level			N	Sex		Level		
		M	F	So	Jr	Sr		M	F	So	Jr	Sr		M	F	So	Jr	Sr
University Liberal Arts																		
U. Buffalo (N. Y.)	30	22	8		1	29	31	20	11			30	29	22	7		1	28
Emory U. (Ga.)	128	78	50		66	62	128	78	50		66	62	126	77	49		65	61
Florida State U. (Fla.)	--						41	20	21		27	14	--					
U. Kentucky (Ky.)	--						128	74	54		12	116	--					
Miami U. (Ohio)	--						99	54	45		48	51	--					
U. Minnesota (Minn.)	34	34		9	10	15	33	33		9	10	14	33	33		9	10	14
U. Rhode Island (RI.)	80	39	41		7	73	83	39	44		7	76	77	37	40		7	70
Subtotal	272	173	99	9	84	179	543	318	225	9	171	363	265	169	96	9	83	173
Engineering																		
Georgia Inst. Tech. (Ga.)	--						42	42			31	11	--					
U. Michigan (Mich.)	45	45				45	69	69			24	45	45	45				45
Purdue U. (Ind.)	34	34				34	88	88			55	33	32	32				32
Rice Inst. (Tex.)	28	28				28	41	41			14	27	27	27				27
Subtotal	107	107				107	240	240			124	116	104	104				104
Business Administration																		
U. Cincinnati (Ohio)	28	28				28	59	59			27	32	29	28	1		1	28
Northeastern U. (Mass.)	23	23				23	46	46				46	14	14				14
Ohio State U. (Ohio)	--						51	47	4		23	28	28	26	2			28
Subtotal	51	51				51	156	152	4		50	106	71	68	3		1	70

Table 1--Continued

School	Activities Index Norm Group						College Characteristics Index Norm Group						Matched AI and CCI Group[a]					
	N	Sex		Level			N	Sex		Level			N	Sex		Level		
		M	F	So	Jr	Sr		M	F	So	Jr	Sr		M	F	So	Jr	Sr
Education																		
St. Cloud State C. (Minn.)	108	59	49		26	82	101	54	47		24	77	99	53	46		25	74
SUNY C. Educ. Buffalo (N. Y.)	38	18	20		15	23	38	18	20		15	23	36	16	20		14	22
Wayne State U. (Mich.)	--						58	11	47		12	46	--					
Subtotal	146	77	69		41	105	197	83	114		51	146	135	69	66		39	96
Grand Total	1,076	558	518	36	193	847	1,993	1,113	880	46	729	1,218	1,076	557	519	35	200	841

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[a] Totals for the matched group are in some instances larger than would appear possible from the AI or CCI norm group totals given here, due to the use of additional variable cases not processed with the norm groups. Gross totals for each school may be found in Appendix D.

teacher training.

The adequacy of this sample may be judged from the fact that all means, sigmas, reliability coefficients, and interscale correlations obtained from it are almost identical with those obtained from much larger samples drawn for special purposes later. Those were based on all available cases at the time of analysis and involved from two to five times as many students as had been included in the norm groups from twice as many schools. The obtained values are evidently quite stable, and not markedly effected by further changes in the numbers of students or types of institutions.

The two Index norm groups, based on 1076 AI cases and 1993 CCIs, were used primarily in order to answer questions involved in item 1 above. Item and scale characteristics were established by means of these two samples, and they were used again after the factoring of the matched sample to develop institutional norms for the factor scores.

Other Samples

Item 3 was concerned with the relationship of these measures to the educational objectives of the institution and their achievement. The entire group of 75 schools and programs available at the time this question was raised was used for this purpose.

The entire senior class at a large university was tested in order to investigate differences between intra-institutional subcultures (item 4).

Other, special samples devised for specific purposes will be described in context.

Chapter III

Student Ecology and the College Environment

When this study was first conceived the need and press factors were expected to provide a new basis for classifying schools, entirely different perhaps from the conventional categories of ordinary usage. It soon became apparent, however, that the new empirical dimensions were yielding subgroups very much like the old familiar subdivisions of academic administrative types. The match wasn't perfect but it was close, and the advantages of being able to communicate in terms of such labels as *independent liberal arts* or *denominational* rather than *Types J* and *K* was the final determining factor.

Six kinds of undergraduate programs had been represented in the original normative sample of 32 Schools. As classified in the 1961-62 Education Directory these were:

> *Independent Liberal Arts*. Antioch, Bennington, Oberlin, Sarah Lawrence, Shimer, Sweet Briar, Wesleyan University (N=460)
>
> *Denominational*. Denison, Eastern Mennonite, Heidelberg, Marian College of Fond du Lac, Northwest Christian, Randolph-Macon Woman's College, Seton Hill, West Virginia Wesleyan (N=397).
>
> *University-Affiliated Liberal Arts*. University of Buffalo, Emory, Florida State, Kentucky, Miami University, University of Minnesota, Rhode Island (N=543).
>
> *Business Administration*. Cincinnati, Northeastern Ohio State (N=156).
>
> *Engineering*. Georgia Institute of Technology, Michigan, Purdue, Rice (N=240).
>
> *Teacher-Training*. Buffalo State Teachers, St. Cloud, Wayne State (N=197).

The F-ratios between these six types of schools are listed in Table 29. Although not quite as high as the values reported in the last chapter between the individual school means (Tables 12 and 14), the CCI differences are still adequate. However, there has been some loss in discrimination for the AI factors. Since it seemed likely that this may have resulted from a confounding of administrative

Table 29

School Types Analysis of Variance

Factors	6 Administrative Types (21 AI, 32 CCI)		10 Administrative Student Body Types (52 AI, 80 CCI)	
	F	p[a]	F	p[b]
AI Student Personality				
1 Self-Assertion	1.77	n.s.	4.53	.001
2 Audacity-Timidity	10.31	.001	17.06	.001
3 Intellectual Interests	9.28	.001	3.56	.01
4 Motivation	4.23	.05	3.23	.01
5 Applied Interests	2.40	n.s.	2.03	n.s.
6 Orderliness	3.71	.05	6.11	.001
7 Submissiveness	1.58	n.s.	5.56	.001
8 Closeness	3.52	.05	7.12	.001
9 Sensuousness	1.32	n.s.	3.76	.01
10 Friendliness	7.92	.001	3.44	.01
11 Expressiveness-Constraint	1.12	n.s.	3.87	.01
12 Egoism-Diffidence	1.96	n.s.	.51	n.s.
CCI College Environment				
1 Aspiration Level	10.59	.001	2.91	.01
2 Intellectual Climate	10.07	.001	4.71	.001
3 Student Dignity	6.43	.001	2.21	.05
4 Academic Climate	3.17	.05	3.41	.01
5 Academic Achievement	6.94	.001	3.76	.001
6 Self-Expression	3.59	.05	3.20	.01
7 Group Life	5.32	.01	6.12	.001
8 Academic Organization	6.96	.001	7.58	.001
9 Social Form	5.83	.001	3.09	.01
10 Play-Work	4.34	.01	4.31	.001
11 Vocational Climate	17.17	.001	7.17	.001

[a] For 5/15 d.f., p (.05) equals 2.90, p(.01) equals 4.56, p(.001) equals 7.57.
For 5/26 d.f., p. (.05) equals 2.59, p(.01) equals 3.82, p(.001) equals 5.80.

[b] For 8/43 d.f., p(.05) equals 2.17, p(.01) equals 2.95, p(.001) equals 4.21.
For 9/70 d.f., p(.05) equals 2.01, p(.01) equals 2.67, p(.001) equals 3.55.

type with the sex of the student body, the analysis was re-run on all available schools at the time (52 AI, 80 CCI) subdivided in ten groups:

	For Men	For Women	Coeducational
Independent Liberal Arts	2CCI	4 AI, 7 CCI	6 AI, 10 CCI
Denominational	3 AI, 3CCI	3 AI, 5 CCI	7 AI, 10 CCI
University-Affiliated Liberal Arts	--	--	7 AI, 13 CCI
Business Administration	5 AI, 6 CCI	--	--
Engineering	12 AI, 16 CCI	--	--
Teacher-Training	--	--	5 AI, 8 CCI

The AI F-ratios now increase (see Table 29), but those for the CCI remain about the same. Obviously sex is an important factor in differentiating the aggregate needs of one student body from another,[1] but it does not contribute much to the differences in press between the types of schools they attend. As a result of these findings differential sex norms were developed for the AI from the original normative sample. The sample was then subdivided by school types and each type plotted against the overall sample norms. The results for both the AI and the CCI are shown in the series of figures which follow. The score means and sigmas for the total sample may be found in Appendix F, the standard score means for each school type in Appendix G.

College Characteristics

Figure 13 illustrates differences in environment factors between three types of liberal arts colleges. The second-order CCI dimensions are the basis for this figure; it is the equivalent of Figure 7, separated into two panels corresponding to the two axes of that figure, and preserving the same sequence among the first-order factors as they cluster around each axis.

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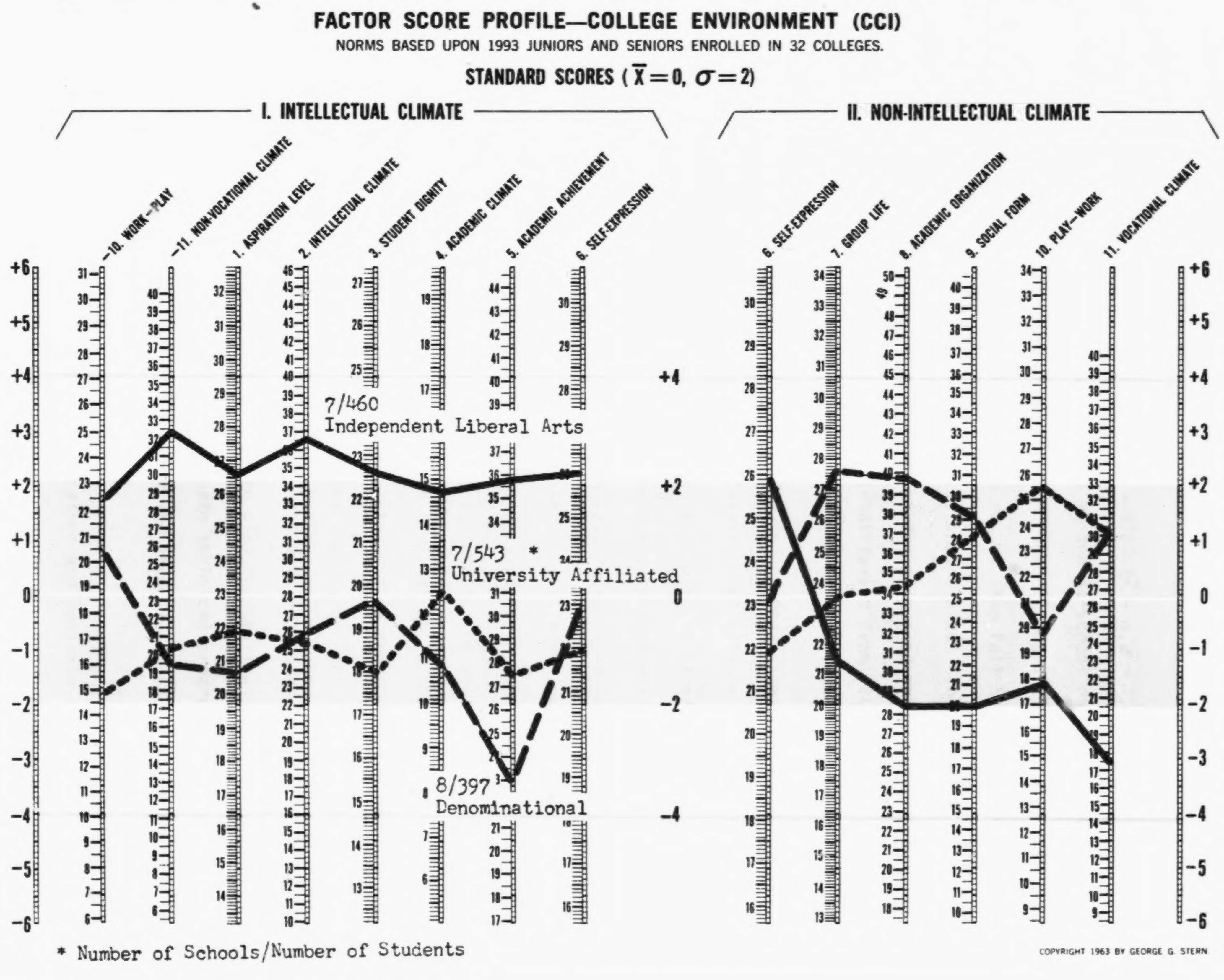
[1] See also Stone (1963).

Fig. 13. Differences between the academic environments of three types of liberal arts colleges.



* Number of Schools/Number of Students

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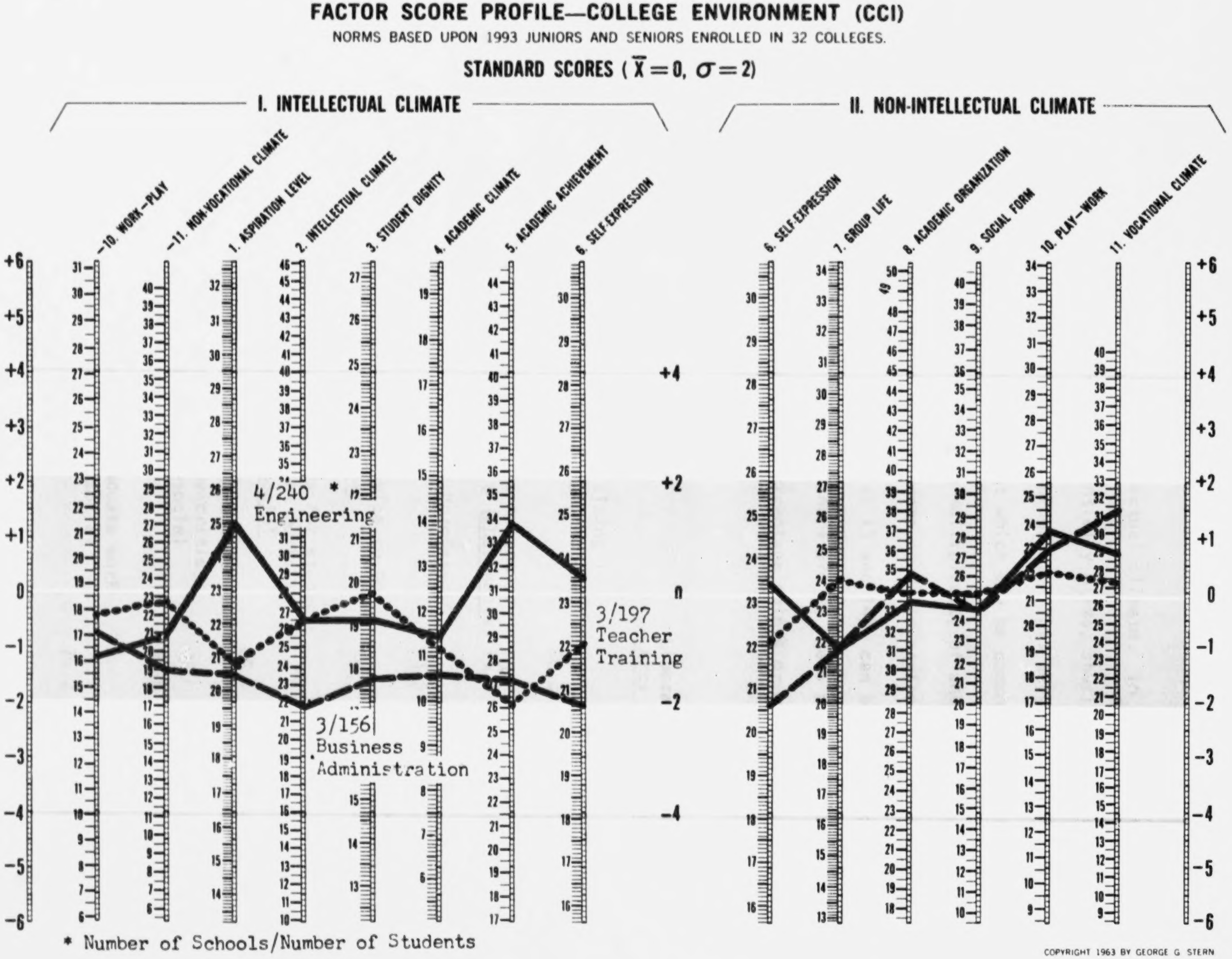
Each factor in the figure has been scaled ($\bar{x} = o, \sigma = 2$) to the values obtained from the 1993 juniors and seniors of the 32-school normative sample. The average value for all 32 schools on each factor appears as a white horizontal line with an index number of zero. Two-thirds of them fall between the values of plus and minus two, indicated by the gray shaded area. Thus, profile values falling close to or beyond the boundaries of the gray area reflect an average score for the schools in that group that is different from five-sixths of the schools in the total norm sample.

It is evident from Figure 13 that the independent liberal arts colleges tend to be characterized by a pronounced intellectual climate and an absence or de-emphasis of many non-intellectual factors found in other types of schools. In contrast, both the denominational colleges and the university-affiliated liberal arts programs are below average in intellectually-oriented activities, the denominational colleges in particular being singularly low in maintaining pressures for academic achievement from their students.

Since the achievement factor refers to faculty and peer group expectations regarding scholastic performance, the implication is that there are other things considered more important at these schools than academic success. The non-intellectual factor scores indicate what these are: the denominational colleges stress organized group activities and a well-ordered academic community, the universities a high level of collegiate play and peer-culture amusements.

Data from three types of undergraduate technical programs is shown in Figure 14. Engineering is the only one of the three to exceed the average in intellectual press, but solely in activities involving high levels of aspiration and achievement motivation. Both the education and business administration programs are below average, the latter in particular being consistently at the

Fig. 14. Differences between the academic environments of three types of undergraduate technical programs.



lower extreme in all aspects of the intellectual climate. In the non-intellectual area all three technical programs are essentially alike, sharing a pattern similar to the university-affiliated liberal arts programs. This suggests a generalized non-academic or extracurricular environment which may be common to most large and complex educational institutions housing a multiplicity of undergraduate programs.

The gap separating the two most extreme academic environments, business administration and liberal arts (cf. Figures 13 and 14), can be understood more concretely in terms of item differences. There are 21 items differentiating between the two types of programs by 40 percentage points or more:

		Per Cent	
		Liberal Arts	Business Administration
1.	Students are discouraged from criticizing administrative policies and teaching practices (abasement).	20.2	92.0
2.	The school administration has little tolerance for students complaints and protests (abasement).	14.1	56.0
9.	Students address faculty members as "professor" or "doctor" (deference).	13.5	63.3
69.	Religious worship here stresses service to God and obedience to His laws (deference).	18.5	64.4
47.	The school offers many opportunities for students to understand and criticize important works in art, music, and drama (humanities-social science).	85.1	40.8
77.	A lecture by an outstanding literary critic would be well-attended (humanities-social science).	90.4	34.3
107.	Many students are planning post-graduate work in the social sciences (humanities-social science).	76.2	18.8
167.	When students get together, they often talk about trends in art, music, or the theatre (humanities-social science).	75.3	17.9

	(cont'd)	LA	BA
197.	Humanities courses are often elected by students majoring in other areas (humanities-social science).	89.9	49.1
261.	The school has an excellent reputation for academic freedom (objectivity).	90.6	48.6
22.	In many classes students have an assigned seat (order).	12.9	99.3
142.	Professors usually take attendance in class (order).	32.2	83.0
292.	Classes meet only at their regularly scheduled time and place (order).	34.7	90.3
25.	Books dealing with psychological problems or personal values are widely read and discussed (reflectiveness).	55.2	13.8
55.	There would be a capacity audience for a lecture by an outstanding philosopher or theologian (reflectiveness).	76.2	18.1
115.	Modern art and music get considerable attention here (reflectiveness).	89.6	41.3
235.	Long, serious intellectual discussions are common among the students (reflectiveness).	84.6	21.6
295.	There is considerable interest in the analysis of value systems and the relativity of society and ethics (reflectiveness).	86.9	38.3
30.	There is a lot of emphasis on preparing for graduate work (understanding).	62.4	10.4
90.	Most students have considerable interest in round tables, panel meetings, or other formal discussions (understanding).	74.7	34.2
180.	Many students here prefer to talk about poetry, philosophy, or mathematics, as compared with motion pictures, politics, or inventions (understanding).	78.6	26.5

Comparable differences between other types of colleges may be found in the item summaries contained in Appendix E.

Student Characteristics

The next group of figures illustrates differences between the students in each of the programs just considered. The basis for these figures is similar to that for the CCI. The circular representation of Figure 6 has been cut and spread out horizontally, divided into panels corresponding to the first three second-order factors and preserving the sequential circumplex order. The variables associated with the fourth factor, Educability, are starred.

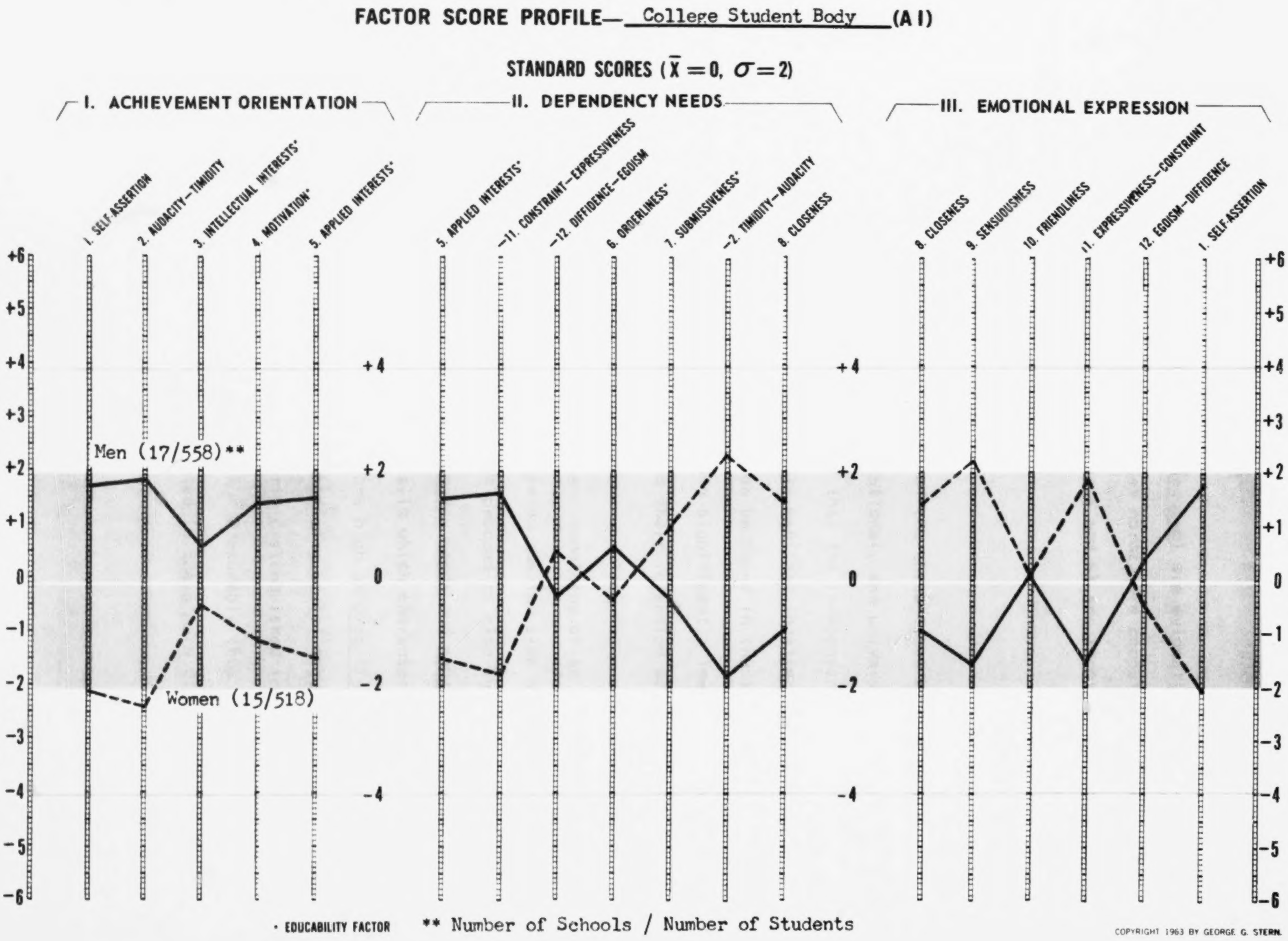
Sex Differences

The sex differences suggested by the analyses of variance reported in Table 29 can be seen in Figure 15. The baseline here is from the total norm group, each school weighted equally as a unit regardless of its student body composition. The 17 schools with male students and the 15 with females were then averaged by schools, without distinguishing between the single-sex and the coed institutions, and the means converted to standard scores.

The male student aggregates exceed the females in all aspects of the achievement orientation area, although the two sexes do approach one another in intellectual interests. In a non-college sample, however, the sex difference here too might perhaps be larger. The high point for the women on the other hand is in that segment of the circle associated with emotional warmth: closeness, sensuousness, and expressiveness. This might have been just as good a point from which to start the circumplex. Was it male chauvinism that led to the labeling of the achievement factors as Area 1?

These differences are all approximately two sigmas large. The remaining factors all have small differences, none of any consequence. Friendliness,

Fig. 15. Differences between men and women college student bodies.



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compulsivity (orderliness) and narcissism (egoism) are evidently not sex-related for these groups. Nevertheless, separate sex norms were computed as noted previously for all AI scores (see Appendixes F and G) and incorporated in the remaining AI profile charts.

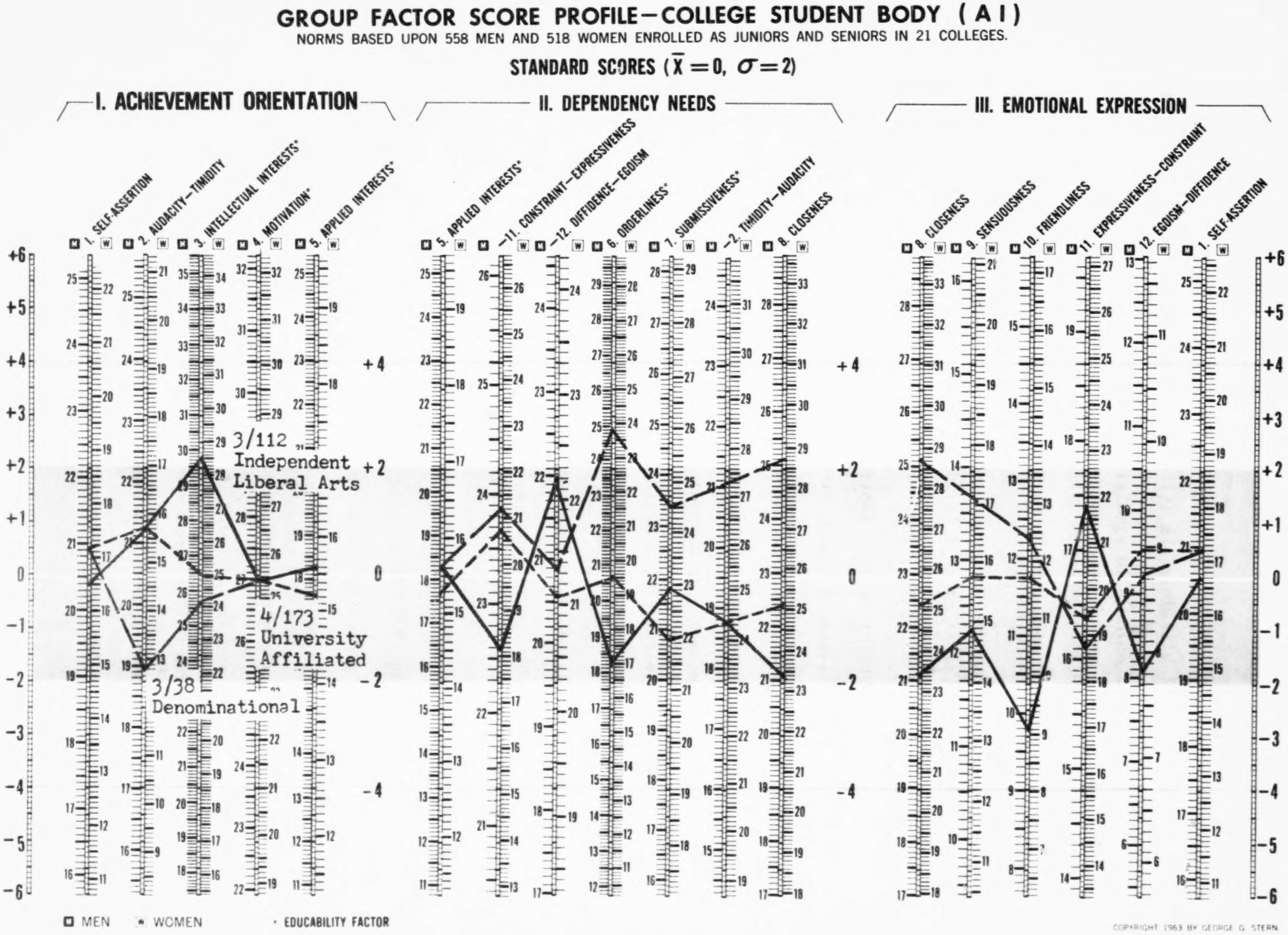
Student Body Characteristics

Men. The students enrolled in each of the three types of undergraduate liberal arts programs--independent, denominational, and university-affiliated--are shown in Figure 16. It is evident here that the independent liberal arts students are the only group of the three with manifest intellectual needs. Their other distinguishing characteristic can be found in the third panel dealing with emotional expression. They have significantly low scores in friendliness and closeness, based largely on their rejection of responses involving organized group activities.

The denominational college males present something of an inversion of the nonsectarian students' profile. They are on the low side of the over-all group average in achievement orientation but proceed to rise systematically towards the right in areas reflecting dependency needs and emotional expression. If we look more closely at the specific details which characterize these denominational students it will be noted that they are high on orderliness, as well as on various forms of group participation emphasizing social togetherness.

The university men are not particularly distinguished in one way or another by their personality characteristics. Presumably this reflects the more heterogeneous nature of student bodies located in these more diversified settings.

Fig. 16. Differences between male students in three types of liberal arts colleges.

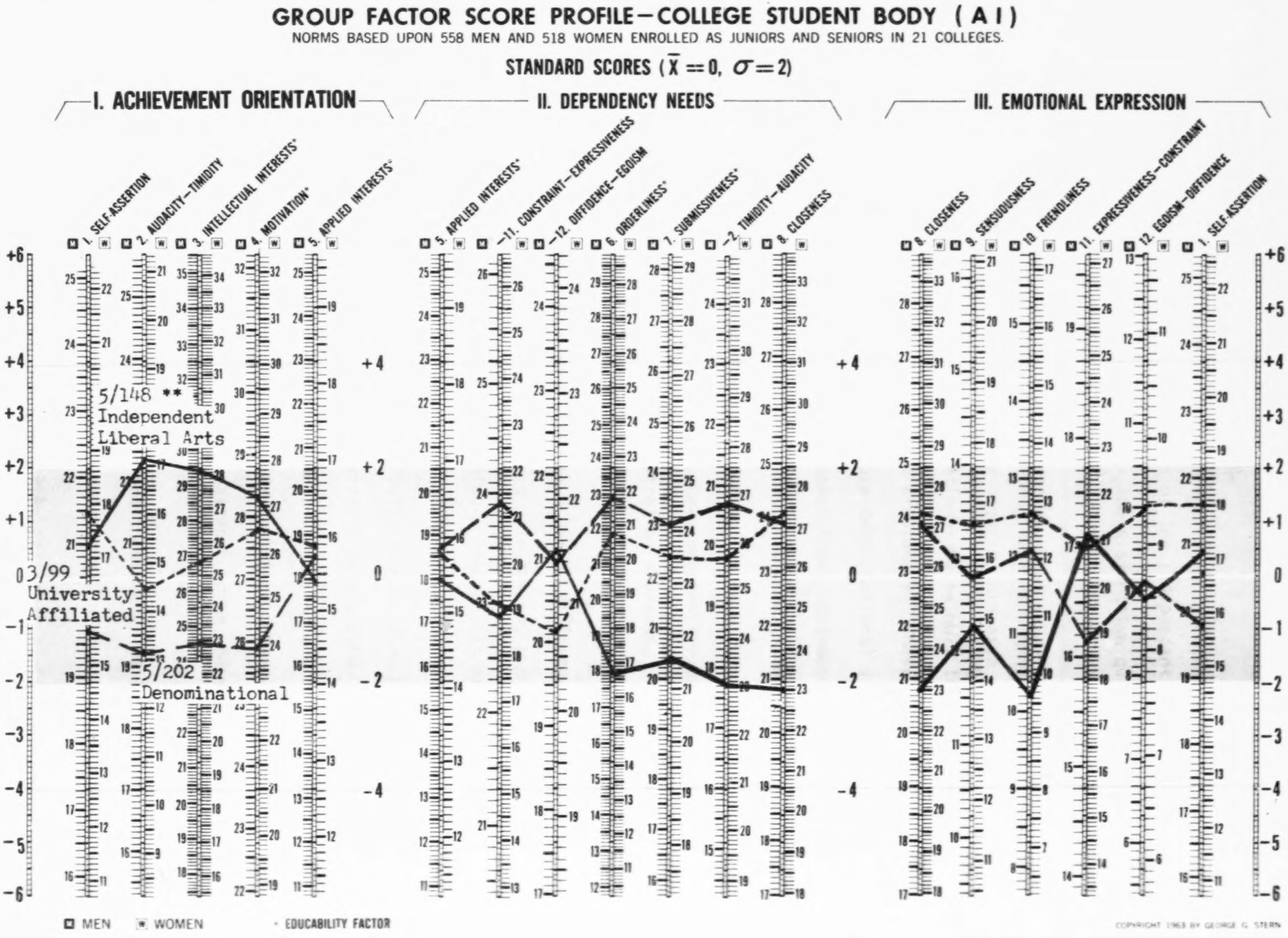


Women. The university women (Figure 17) are similarly lacking in any single distinctive score, although the consistency with which they exceed the means for all women on each factor of Area III (Emotional Expression) does suggest some common purpose behind their choice of this type of college setting.

Women students in the independent liberal arts colleges, both coeducational and for women only, exhibit characteristics similar to their male counterparts at the same or similar institutions. If anything, these women are even more achievement-oriented relative to women in general than their male counterparts are to other men. The men in these schools are distinguished by a single high score in this area: they exceed five-sixths of all college men in the sample on Factor 3 (Intellectual Interests). The independent liberal arts girls, however, are in the top sixth of all college women in social aggressiveness (Factor 2--audacity) as well as in intellectuality. They are also high in their motivation for academic work, and even more consistent than the men in rejecting a submissive, conforming, group-centered role.

The extreme personal and intellectual independence characterizing these girls may perhaps be attributable to their relative freedom from economic and vocational pressures on the one hand, and to the relevance which intraceptive understanding may be perceived to have as a useful feminine skill on the other. It may also be that the absence of boys permits the woman undergraduate greater freedom to be herself, and to excel in purely intellectual pursuits in accordance with her natural abilities. Three of the five schools from which these girls came are coeducational, however; nor is there any group of women from any other type of setting characterized by this same intellectual emphasis. It

Fig. 17. Differences between female students in three types of liberal arts colleges.



seems more likely that it is the uniqueness of the independent liberal arts setting that is responsible in some way for the distinctive qualities of these girls.[2]

The denominational women are certainly far less eager in their intellectual orientation, and have substantially lower scores in this area relative to college women in general (except for women in education--see below), than the men from denominational colleges who were considered previously. These girls are also less outgoing or group-centered than the male denominational students, and perhaps basically somewhat constricted personalities. Although some of these women are in coeducational schools, others not, the data is substantially the same for both types of denominational colleges.

Technical Students. In Figure 18 we have personality profiles for engineering, teaching, and business administration students. The engineers tend to share a measure of the intellectual interests which characterized the independent liberal arts students. There is a marked difference, however, corresponding to higher levels of achievement orientation, both real and fantasied, for the engineers and correspondingly lesser interests in intellectual or scholarly pursuits per se. Men and women in the teacher-training programs are substantially alike in scores reflecting tendencies toward social dependency and group participation. They differ, on the other hand, in the achievement area where the males are more nearly comparable with the average for all college students whereas the women are distinctly below it. They are quite similar in this respect to the denominational women, many of whom are also education majors.

The most striking group of students are those enrolled in business administration programs. Decidedly anti-intellectual, with scores on this

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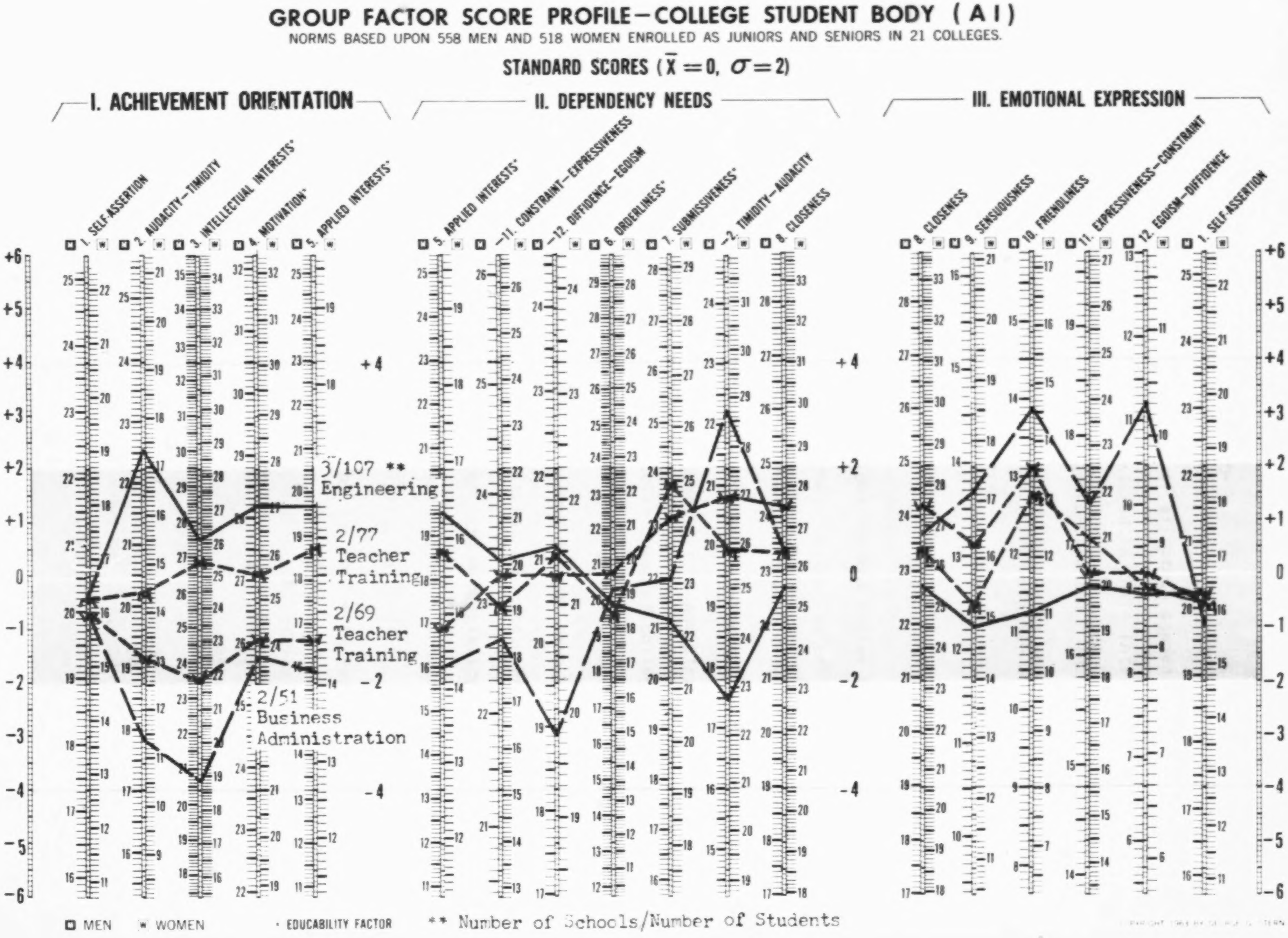
[2] See also Lovelace (1964) and Rowe (1964a) for other AI-CCI data on liberal arts women's colleges.

Fig. 18. Differences between students in three types of undergraduate technical programs.



** Number of Schools/Number of Students

dimension that are exceeded by 98 per cent of all other students in the normative sample, they are notably self-centered in their interests but at the same time non-aggressive and strongly group-oriented. Their scores in fact suggest incipient organization men, anxious to please and preoccupied with the impression they are making on others.

Freshman Characteristics

When the characteristics of the various student bodies are compared with those representing the attributes of their respective college programs, it will be seen that there is a marked degree of compatability between the two. Although we have seen that the student's self-characterization is unrelated to his description of the environment, it is now clear that particular types of students are to be found at particular types of colleges. Inasmuch as these data are based on the responses of juniors and seniors, it might be inferred that they reflect the impact these institutions have on their student body. Figure 19 shows, however, that this is not the case. Freshmen in elite liberal arts colleges are very different from freshmen entering business administration programs, and each group looks remarkably similar to the upperclassmen from their own type of institution (Figures 20-23).

The data in Figures 20-23 are based on the following special samples of students:

	Freshmen	Seniors
Liberal Arts Men		
Antioch	23	28
rlin	49	50
Liberal Arts Women		
Bennington	34	36
Oberlin	50	50
Sarah Lawrence	39	31

Fig. 19. Differences between freshmen in selected elite liberal arts colleges, and business administration programs.

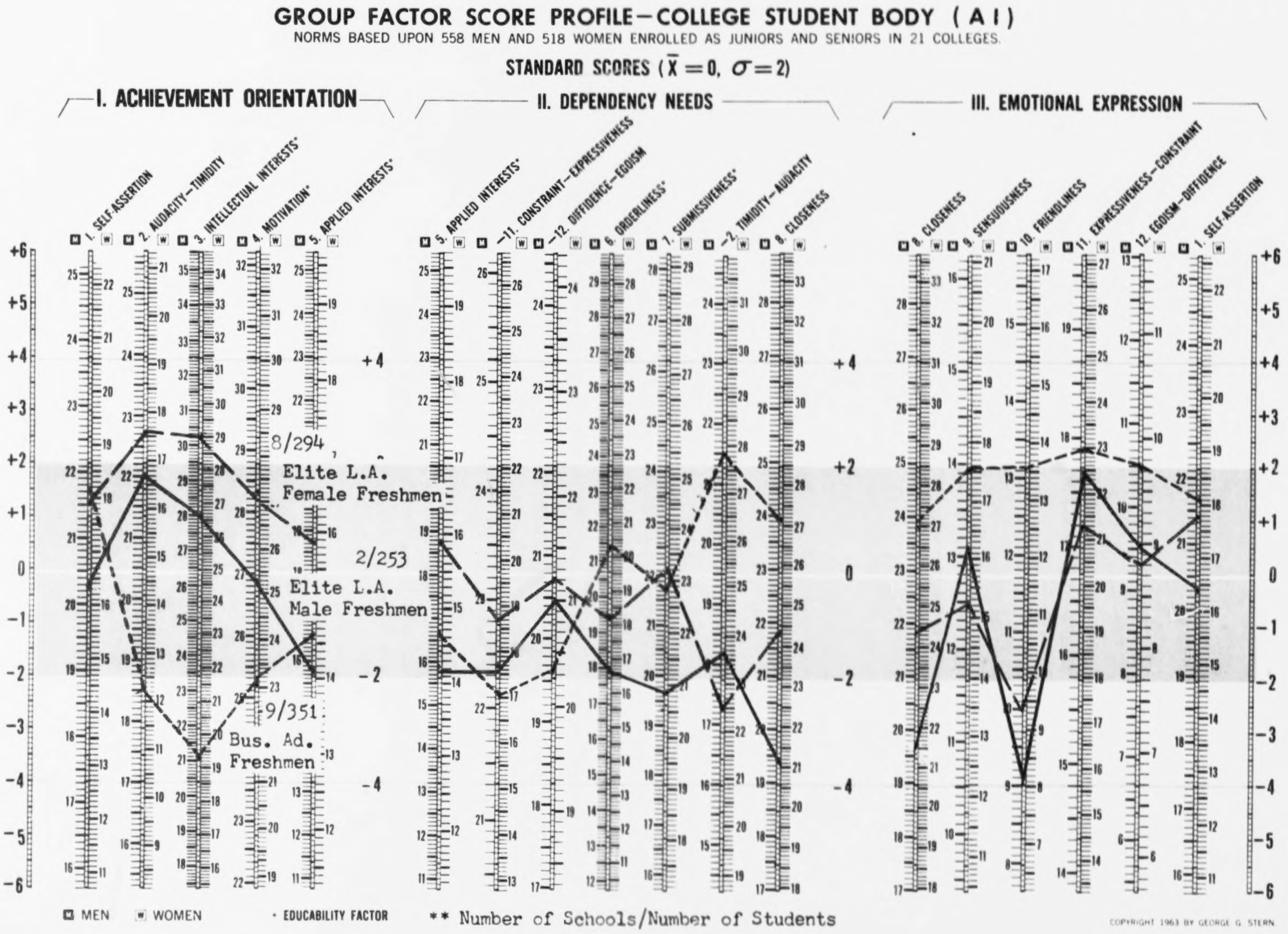
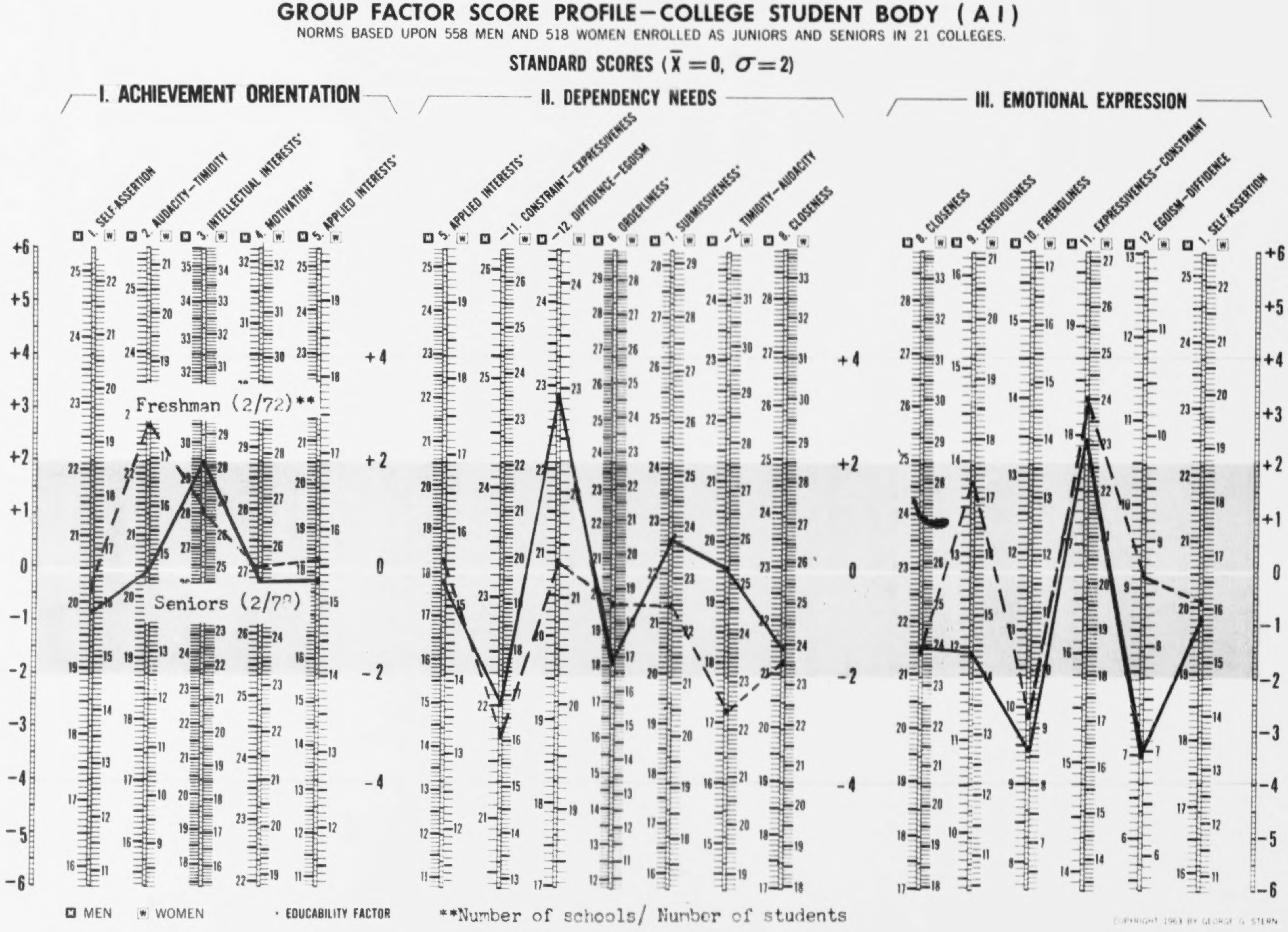
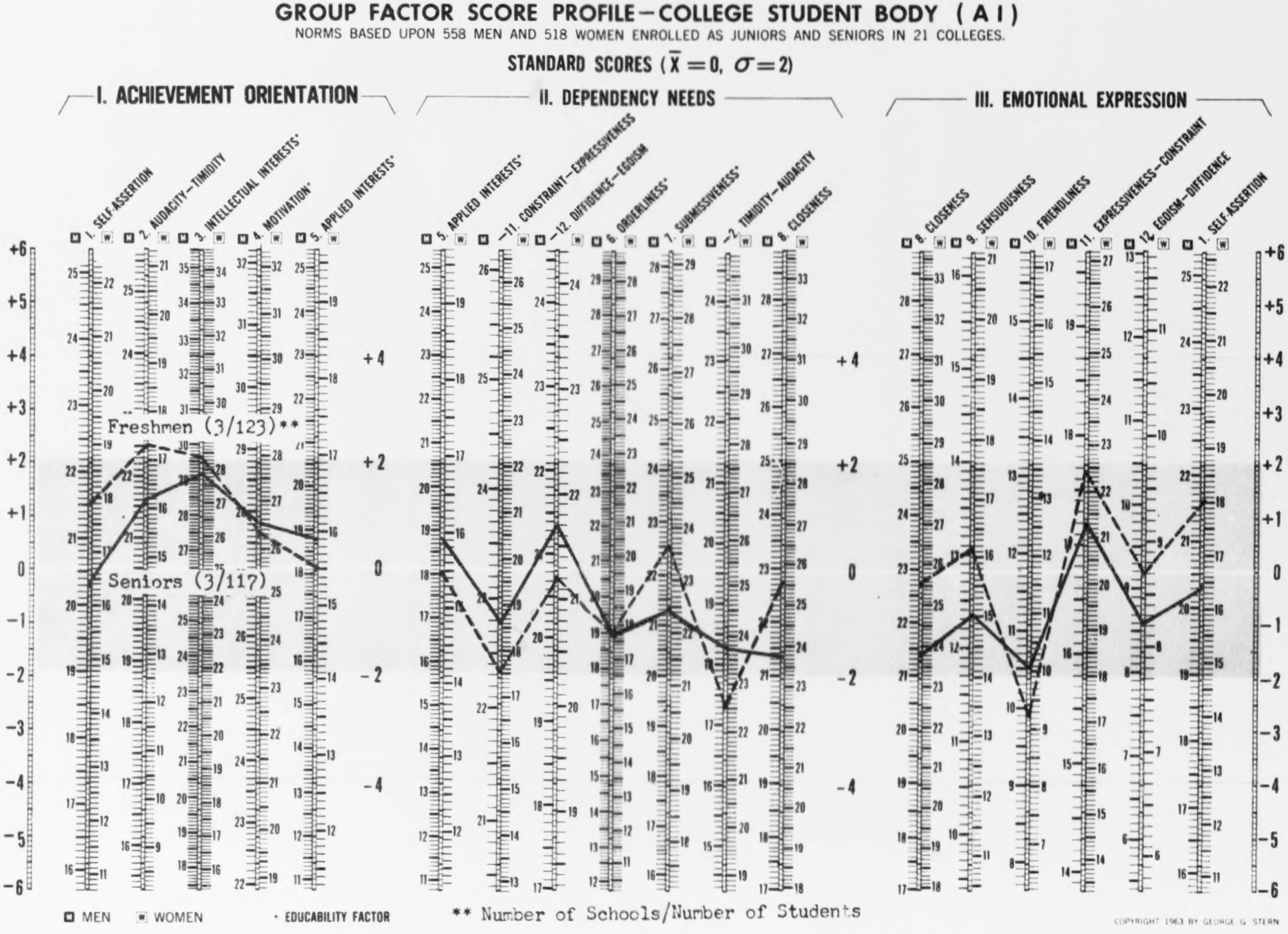


Fig. 20. Difference between male freshman and seniors attending the same elite liberal arts colleges.



**Number of schools/ Number of students

Fig. 21. Differences between female freshmen and seniors attending the same elite liberal arts colleges.



** Number of Schools/Number of Students

Fig. 22. Differences between freshman and seniors attending the same engineering schools.

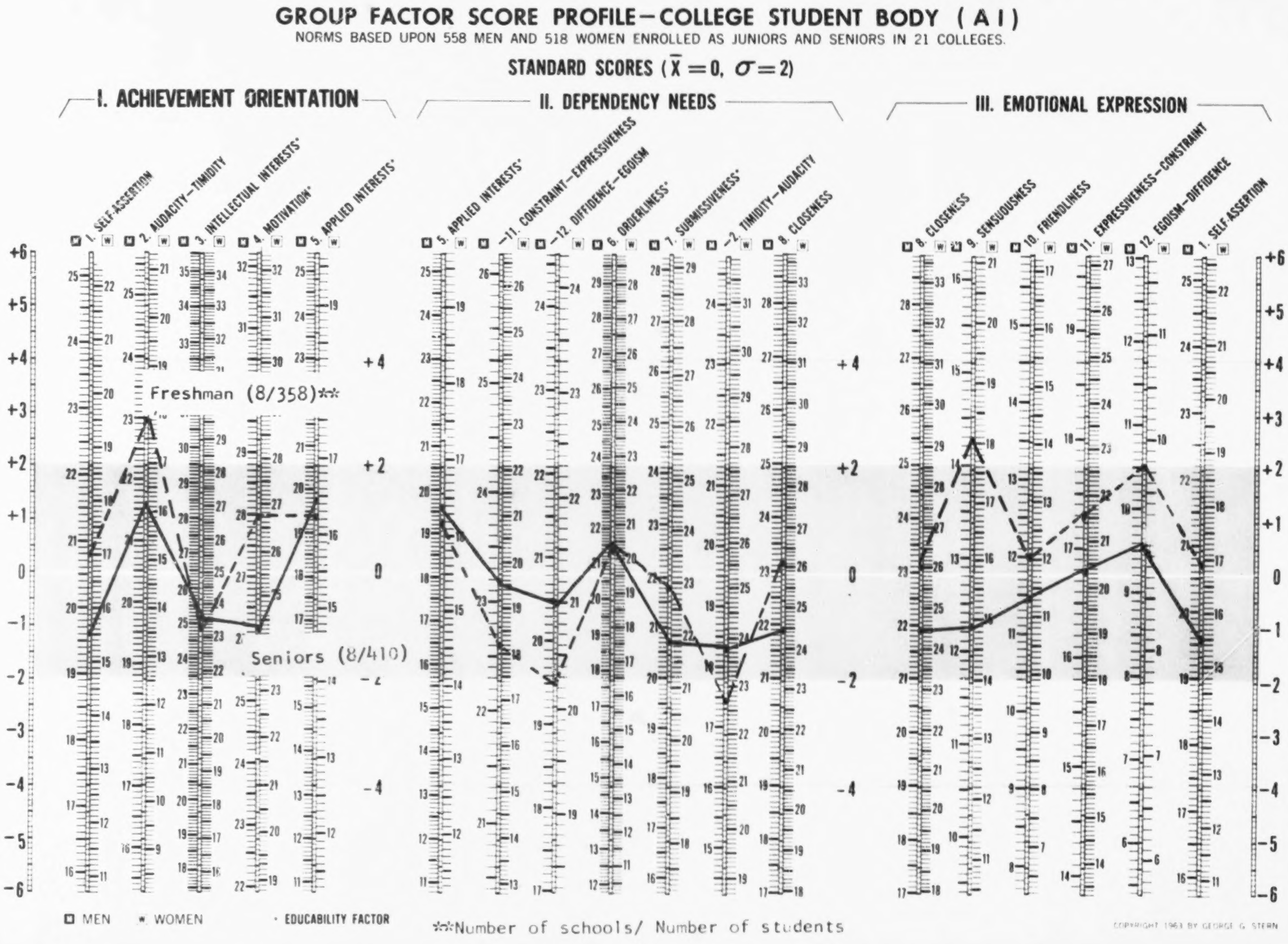
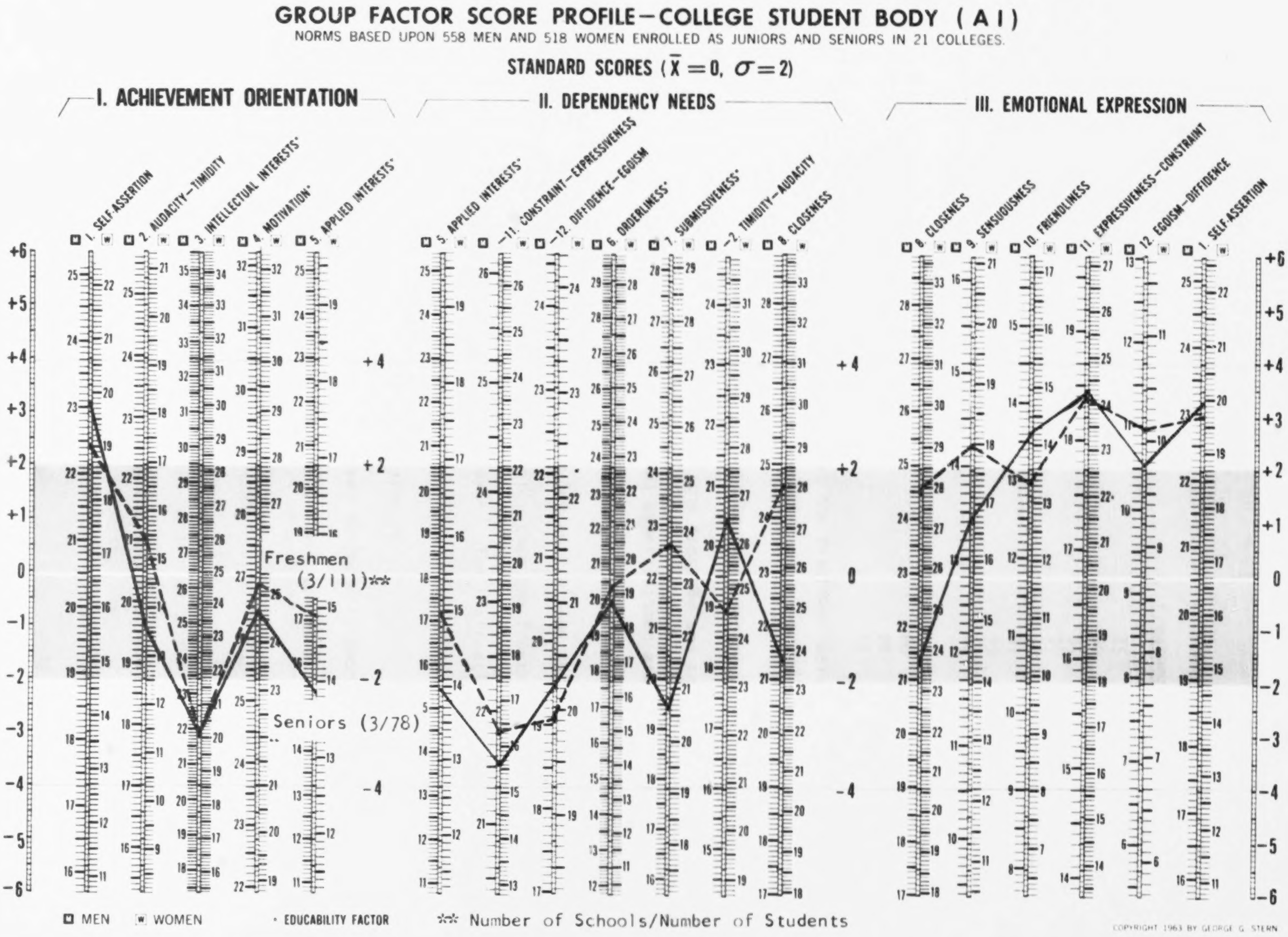


Fig. 23. Differences between freshmen and seniors attending the same business administration schools.



	Freshmen	Seniors
Engineers		
Arkansas	25	32
Detroit	50	95
Drexel	31	31
General Motors Institute	54	76
Georgia Institute of Technology	56	64
Illinois	41	33
Michigan	39	45
Purdue	62	34
Business Administration		
Cincinnati	66	28
Drexel	20	23
Ohio State	25	27

It is evident from these figures that the freshmen recruited by various types of colleges tend to exhibit the same qualities of personality at the time of admission that distinguish fellow students in their senior year. Furthermore, as Table 30 shows, the variability of the freshmen and the seniors on these measures also shows little change; the upperclassmen are in general no more homogeneous than the incoming students.

The most notable exception occurs in the case of the engineers. The seniors are less variable and have lower scores than the freshmen in motivation, closeness, and in three of the four area scores. The implication is that the more highly motivated and emotionally labile engineering students withdraw, or learn constraint, before they get to the senior year.

There is also a suggestion of increased homogeneity among liberal arts women in orderliness and dependency needs, but their scores as such show little change.

The College as an Ecological Niche

Marked differences have been found in the nature of the programs characterizing the small independent liberal arts college, the denominational

Table 30

Al Factor and Area Standard Deviations for Freshmen and Seniors at the Same Schools

		Liberal Arts				Engineering		Business Administration	
		Men		Women					
	Factor	Freshmen	Seniors	Freshmen	Seniors	Freshmen	Seniors	Freshmen	Seniors
1	Self-Assertion	7.9	7.2	7.6	7.1	8.5	7.5	7.8	7.2
2	Audacity-Timidity	5.7	5.5	5.7	5.4	6.6	5.6	6.0	6.7
3	Intellectual Interests	7.5	7.5	6.5	7.3	8.5	8.2	7.9	7.8
4	Motivation	7.0	7.4	5.8	6.1	8.1	6.7	6.3	6.9
5	Applied Interests	5.4	5.5	6.5	6.2	5.6	5.2	5.7	6.2
6	Orderliness	7.1	6.5	7.3	5.7	7.0	6.4	6.7	7.0
7	Submissiveness	7.0	5.9	5.9	6.0	6.9	6.3	6.1	5.7
8	Closeness	6.6	5.9	6.2	6.5	7.2	5.9	6.2	5.8
9	Sensuousness	4.2	4.5	5.2	5.3	5.8	4.8	5.1	4.8
10	Friendliness	4.9	4.6	4.2	4.1	5.0	4.1	4.0	3.4
11	Expressiveness-Constraint	5.8	5.9	6.5	6.4	6.3	6.3	6.1	6.1
12	Egoism-Diffidence	4.0	4.0	4.1	4.1	4.2	4.1	4.1	4.7
	Area								
1	Achievement Orientation	23.5	21.5	21.9	24.2	30.3	24.6	25.7	26.3
2	Dependency Needs	21.8	19.9	24.6	18.7	23.7	21.7	21.9	22.1
3	Emotional Expression	23.5	24.3	25.4	25.0	28.3	24.3	24.8	23.1
4	Educability	23.5	22.1	22.2	21.2	28.3	23.3	23.8	24.1

college, and at least certain undergraduate areas in the large universities. Since the same interinstitutional differences in student needs patterns evidently apply to freshmen as well as to upperclassmen it must be concluded that each of these undergraduate programs tends to recruit its own distinctive type of student, these students change relatively little along the dimensions measured here as a result of their college experience, and each group must therefore contribute in its own way towards the maintenance of its typical college culture.

Each of these types of schools may be viewed then as an ecological niche for a particular kind of student. The independent liberal arts college caters to students concerned with intellectuality and autonomy. Engineering schools also emphasize personal independence, but are otherwise more aggressive, thrill-seeking, and achievement-oriented. The denominational subculture is group-centered, as are university-affiliated liberal arts, business administration, and teacher-training colleges, but each of these differs in its focus. Denominational college life would appear to be more purposive and goal-oriented, less playful and convivial, than the large universities whereas the atmosphere of the business administration programs is decidedly anti-intellectual.

Freshmen Expectations

These differences are more-or-less consistent with prevailing stereotypes regarding American colleges and universities, at least among professional educators. Since the colleges are evidently successful in recruiting students compatible with the existing culture, it would seem to follow that freshmen must be quite knowledgeable about such distinctions themselves. What evidence there is, however, suggests that this is not necessarily so.

Data are available from four schools that had their entire incoming freshman class respond to the CCI when they first arrived on campus, on the basis of their expectations for the college they had just entered (see Appendix for "Expect" instructions). The four were Beloit, Cazenovia, St. Louis, and Syracuse. Despite the enormous differences between them as institutions--small independent coeducational liberal arts college, two-year women's college, and two large universities, one Catholic and the other nonsectarian--the expectations of the four groups of freshmen follow a substantially similar pattern. As Figure 24 shows, they look forward to high levels of activities relevant to both the academic and nonacademic press, a combination quite unlike any of the types of schools examined earlier in this chapter.

This does not correspond to the actual characteristics of these schools at all. Data available from the graduating class at three of these schools, obtained later in the same academic year, are summarized in Figure 25. It is evident that the incoming freshman expected something rather different from what his upper division colleagues (or, as we shall see in a later chapter, second-semester freshmen) have actually experienced. He expected more opportunities for social participation and self-expression and higher academic standards as well. As an entering freshman, he came expecting to learn; as a senior he has learned perhaps not to expect quite so much. At any rate, the school press would seem to be relatively uninfluenced by the expectations of the incoming student body, and the recruitment of student types achieved by some means other

Fig. 24. Freshmen expectations of press at four schools.

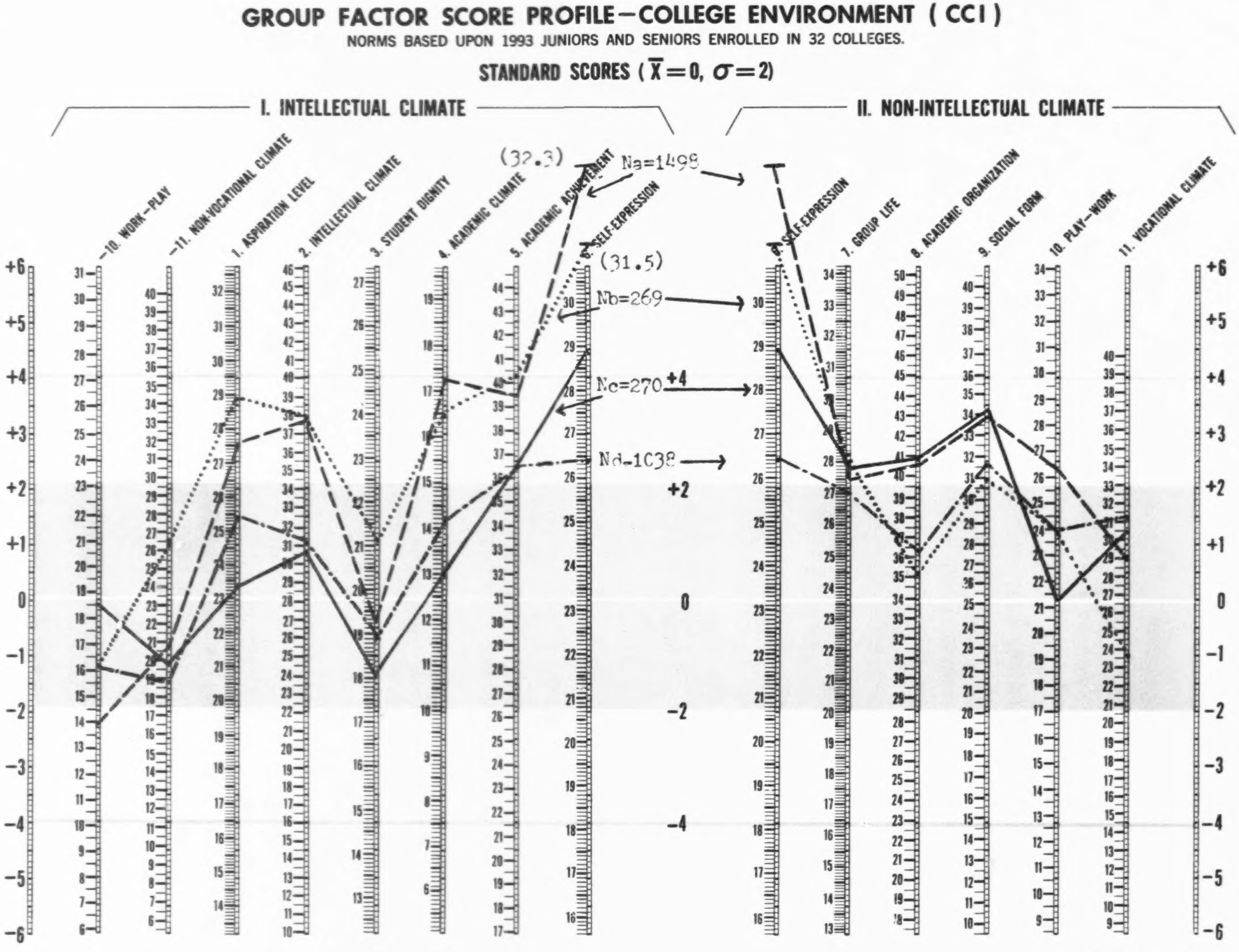
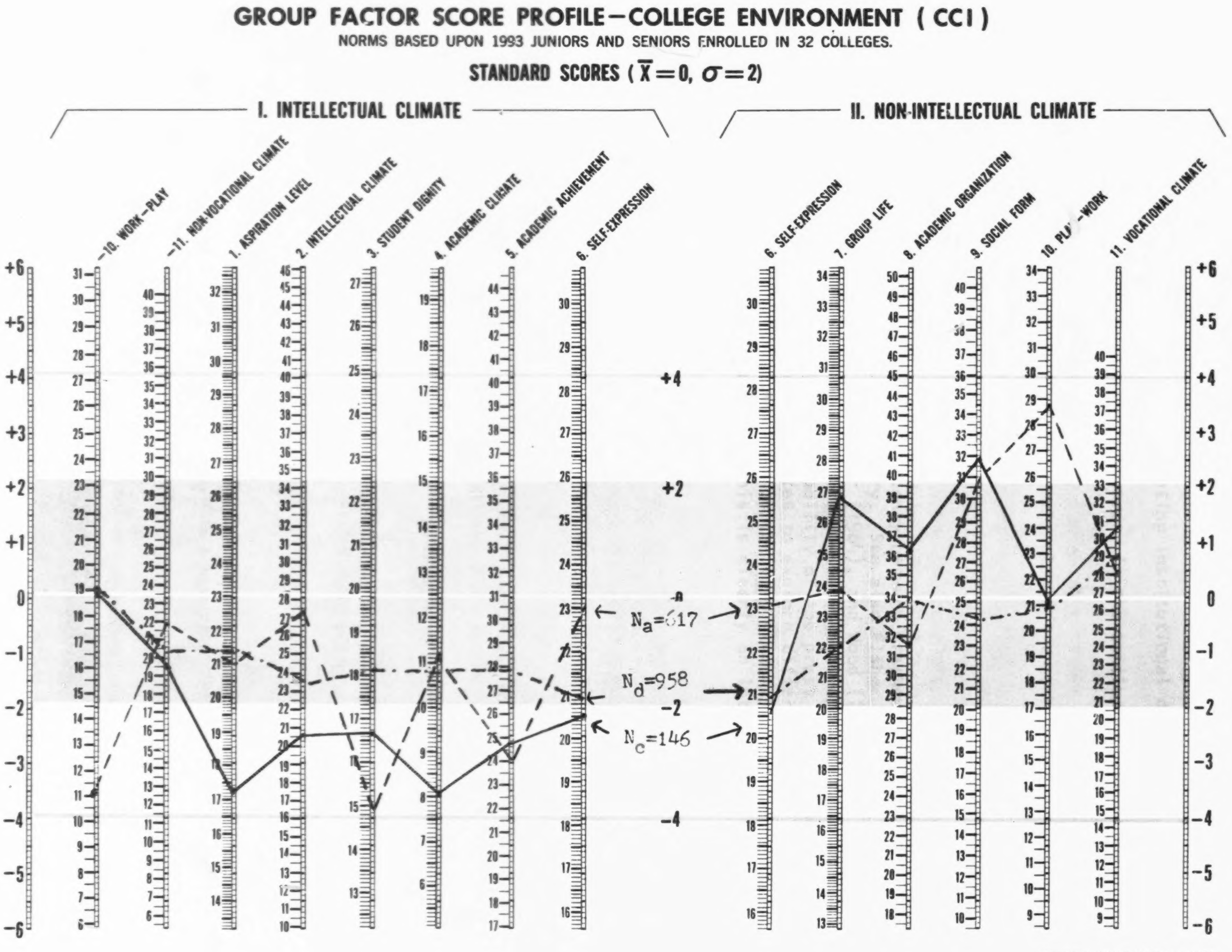


Fig. 25. Senior perceptions of press at three schools.



than the applicant's accuracy in discriminating institutional differences.[3] There is more to be said on this point, however, in the concluding chapter of this section.

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[3] Webb (1963) reports the same discrepancy between freshmen "expectations" and upperclass "perceptions" at Emory. See also Fisher (1961), Standing (1962), Standing and Parker (1964), and Wood (1963) for similar findings. Chickering (1963) and Rowe (1964b) on the other hand present data reflecting the stability of the press at the same college. Only one study has attempted to explore differences in the perceptions of various colleges by the same students (Cole and Fields, 1961), although this is clearly an interesting question.

Chapter IV

THREE COLLEGE VIGNETTES

Index factor scores and item data have given us some measure of insight into differences between college types, but the scales and items can provide even more information about the distinctive characteristics of particular schools. Three liberal arts colleges have been selected for this purpose: an independent woman's college (Bennington), a Catholic woman's college (Marian), and a coeducational college associated with a large private university (Syracuse).

These three schools were chosen for comparison because they are each somewhat extreme versions of their respective types. The Bennington factor profile epitomizes the private liberal arts college, as can be seen by comparing Figures 32 and 13. Marian is less typical of the denominational colleges in that it has a stronger academic program than most others of the same type included in this study, but it was for just this reason that it was paired off with Bennington. The two schools were expected to differ substantially from one another in many ways despite their similarity in scores reflecting two conventional criteria of academic quality: the overall adequacy of staff and facilities in the arts and sciences (Factor 4), and the maintenance of high standards of academic achievement (Factor 5).

As Figure 32 shows, the schools have comparable scores on both of these factors. Factor 3 Student Dignity is also of about the same magnitude, from which it may be inferred that student personnel practices are similarly noncoercive at the two schools. Aside from these three factors, however, they are otherwise very different from one another.

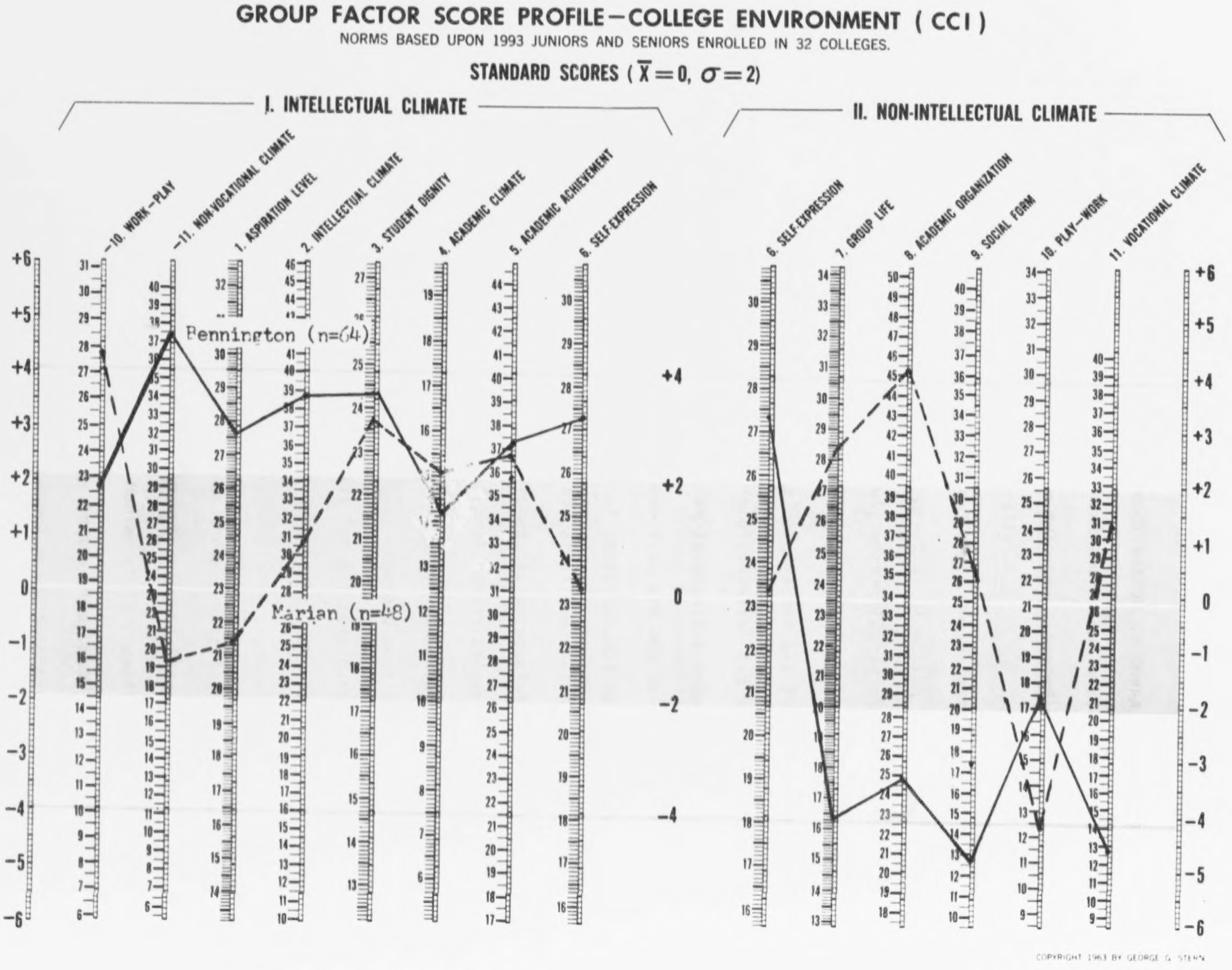
Bennington and Marian Score Differences

In the intellectual area the factor scores suggest that the Bennington curriculum is much less pragmatic in its orientation (Factors -11 and 2) and the post-graduate career models suggested to its students are correspondingly ambitious and varied (Factor 1). The Marian program is evidently more applied in content and modest in its objectives, and the atmosphere is also more purposeful and constrained (Factors -10, 6). It is nevertheless much more intellectually oriented than the typical denominational college considered in the last chapter. Marian runs to form again, however, in the non-intellectual area. Scores on the three factors representing group organization and participation (Factors 7, 8 and -9) are extremely high relative to Bennington and reflect the same distinction between denominational and independent schools noted previously in this area.

The differences between the two groups of girls are even more striking (see Figure 33) than those between the schools. The Marian girls are clearly more dependent than those at Bennington. Although there are differences between them in Areas I and III, the major discrepancies in these areas are associated with factors that are also represented in Area II. It seems evident that the two student bodies are more nearly alike with respect to achievement drive (high) and emotionality (low) than they are in the case of dependency needs. Both groups of girls are serious-minded, intellectually purposeful, and austere. And here the resemblance ends.

The Marian girls' practicalness (Factor 5) is the highest recorded for any group of women students, and quite exceptional. They also exceed most if not all of the other samples of college women in constraint, orderliness, and submissiveness (Factors -11, 6 and 7). The Bennington girls are at least one standard

Fig. 32. Bennington and Marian college press profiles.

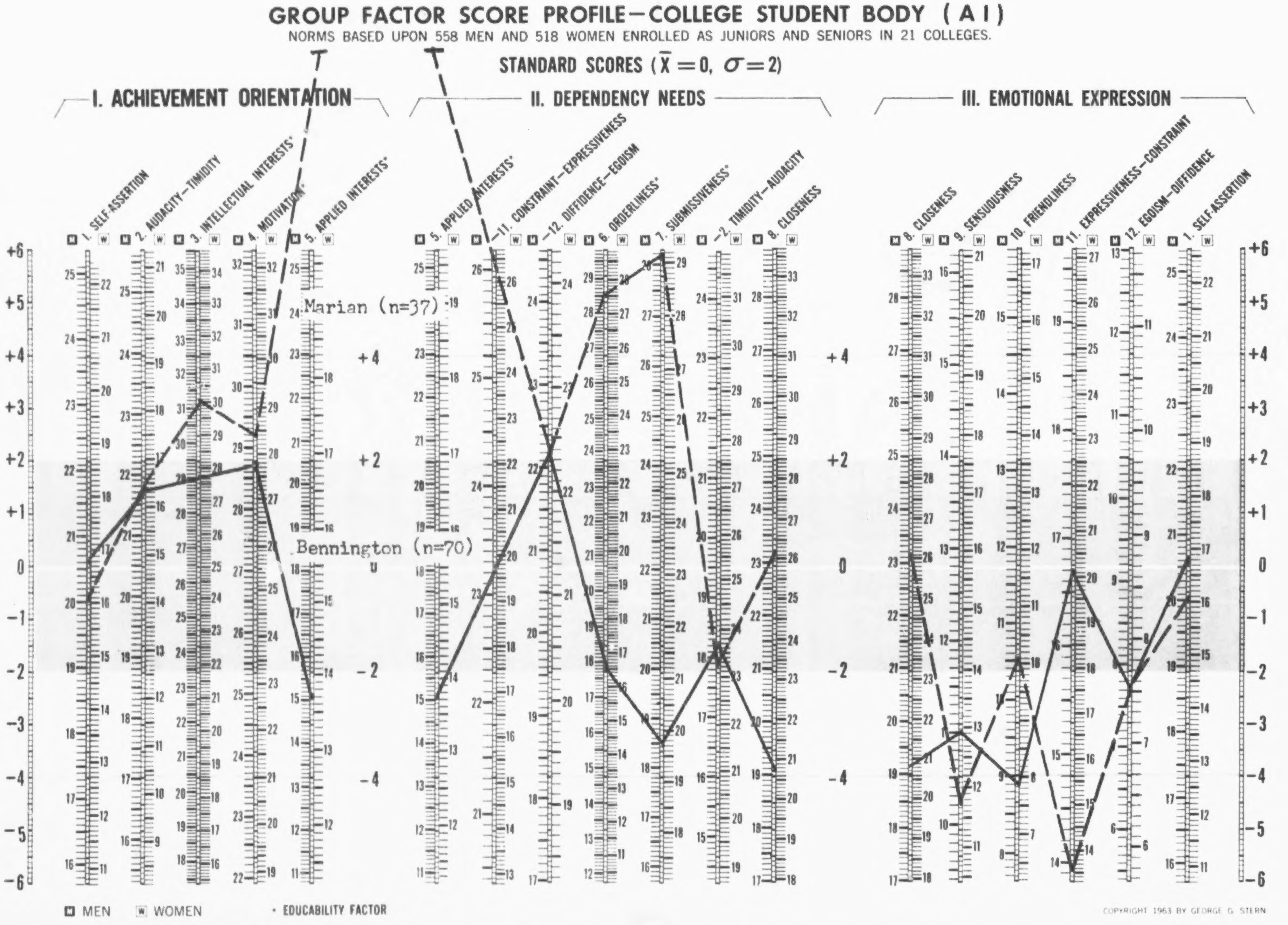


deviation beyond the mean in the opposite direction on these same factors. In addition, the Bennington student body is extremely low in closeness and friendliness (Factors 8 and 10), reflecting the autonomy, inner-directedness and detachment of the liberal arts type generally.

We can get some further clarification of these factor scores from the scales which comprise them. On the Work-Play dimension (Factor -10), for example, both schools present a purposeful, work-oriented atmosphere to their students, but Marian appears to be much more extreme than Bennington in this respect. The four scales contributing to this factor are Prudishness-Sexuality, Harm Avoidance-Risktaking, Deliberation-Impulsiveness, and Work-Play. If the two schools are compared scale by scale, as is possible from Figure 34, it is evident that the actual differences between them are due to the fact that Marian is exceptionally high on the first three of these but not on Work whereas Bennington would not be high on this factor at all were it not for their score on this one scale. Marian, then, establishes its purposefulness by maintaining a high level of sexual, physical and emotional constrictiveness. Bennington on the other hand is less constricted in these areas but decidedly intolerant of social amusement *per se*, a form of frivolity regarded more benignly at Marian.

Similar details can be worked out for the remaining press and needs scales listed in Figures 34 and 35 . It is evident, for example, that the two press polarize most sharply on activities involving group closeness (affiliation, nurturance and adaptation) and orderliness (order, narcissism), Bennington tends to be more extreme than other colleges in underplaying these areas, however, than Marian is in its emphasis on them. The Marian girls present the more extreme picture with respect to personality needs on the other hand, tending towards greater submissiveness (abasement, deference) and orderliness (practicalness,

Fig. 33. Bennington and Marian student body needs profiles.



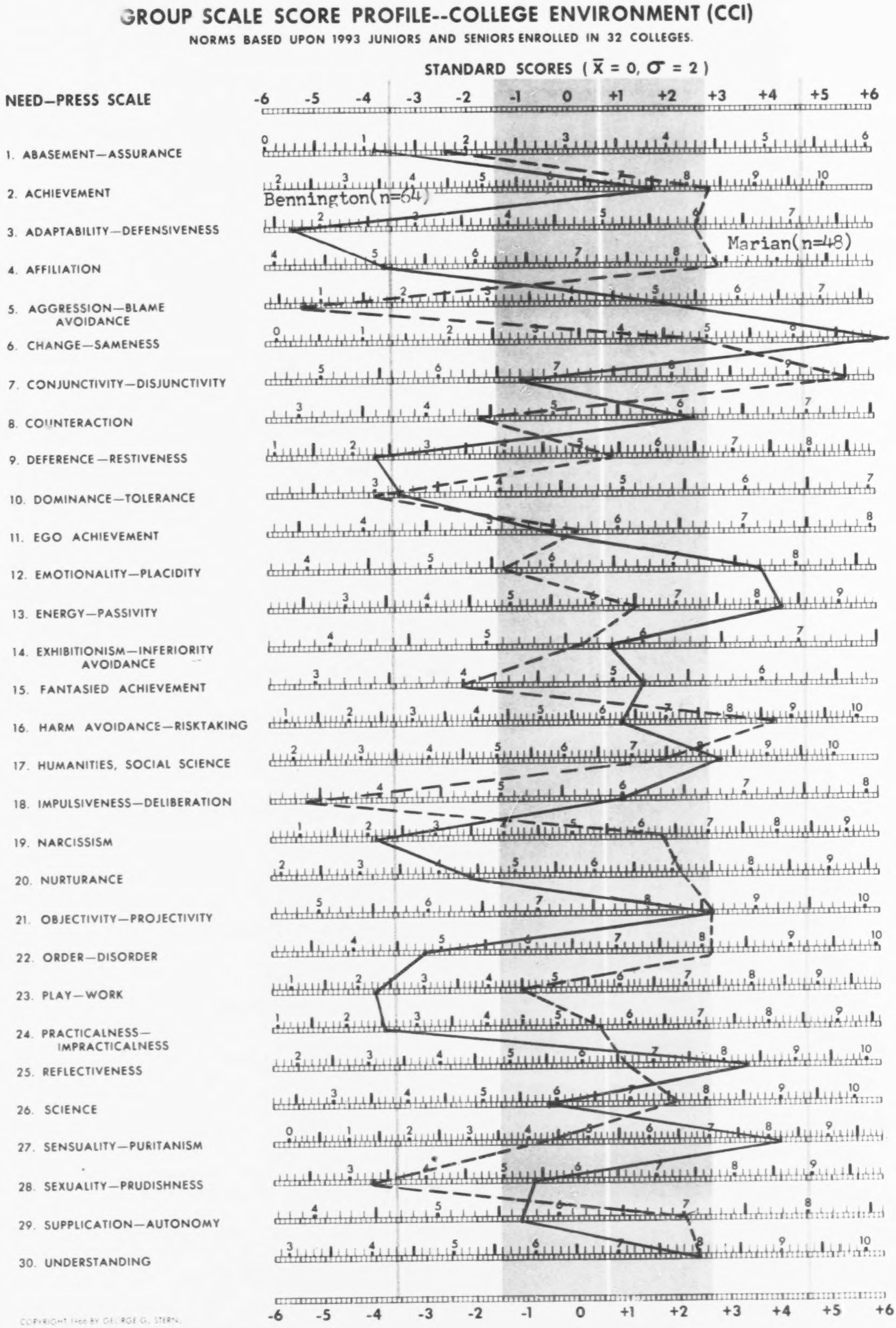


Fig. 34. Bennington and Marian press scale scores.

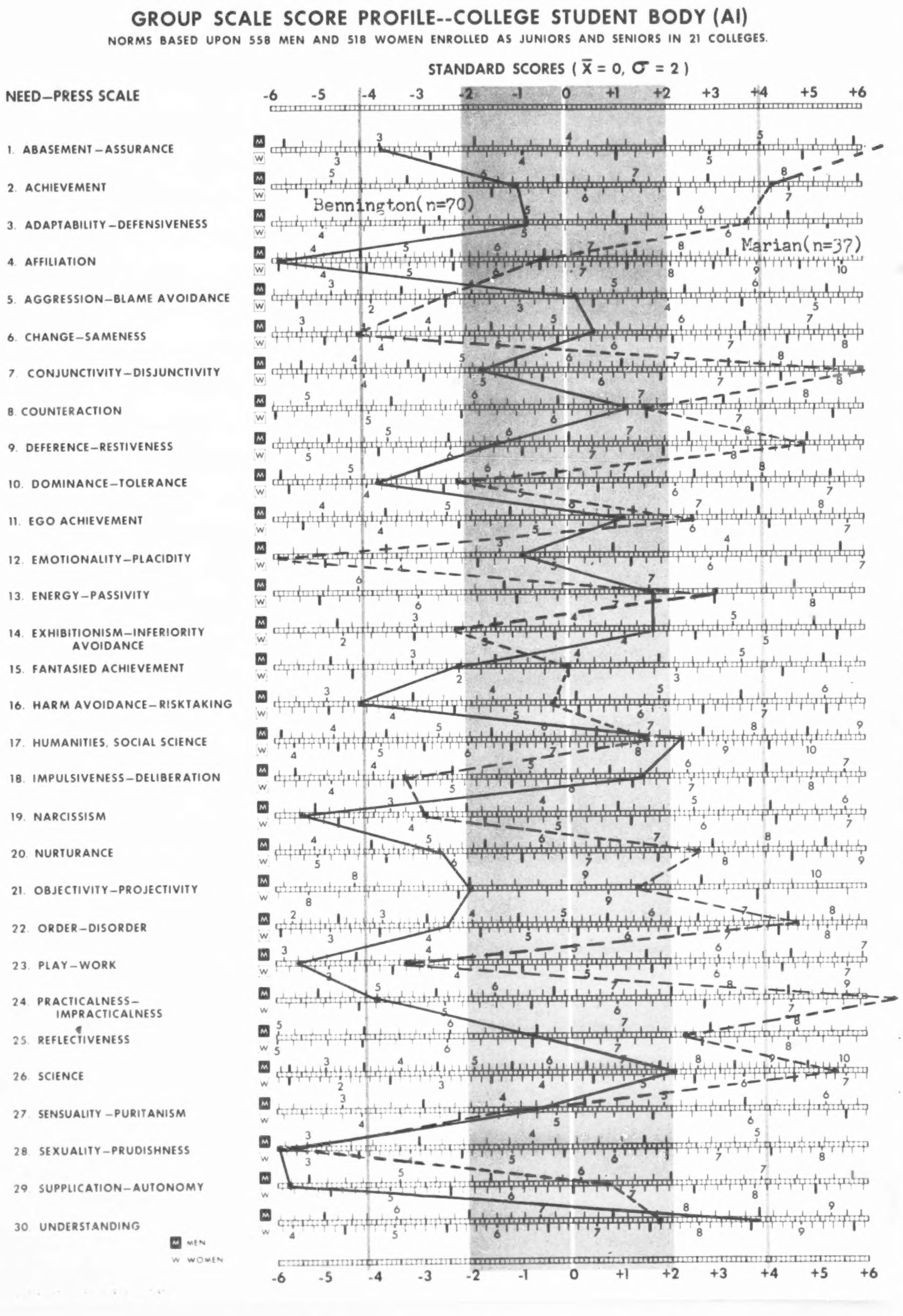


Fig. 35. Bennington and Marian needs scale scores.

order and conjunctivity) relative to college women generally. The deviation of the Bennington girls in the opposite direction on these same variable is not nearly as marked. But a more direct sense of the characteristics of these two schools is to be obtained from the items themselves, particularly those to which there has been a significantly high response consensus. The descriptions of Bennington and Marian that follow are composed in their entirety from the actual AI and CCI items, edited slightly to improve their readibility in this form, facilitate the transition of ideas, and minimize redundancy. The items involved are those to which at least 87 per cent (p=.001) of the respondents have agreed.

Bennington Item Summary

Student Needs Characteristics

I Achievement Orientation. These students all like work which requires intense intellectual effort. They are as interested in doing experiments in the natural sciences as they are in the works of painters and sculptors. They enjoy working for someone who will accept nothing less than the best that's in them, and are prepared to exert themselves to the utmost for something unusually important or enjoyable. They dislike superstitious practices.

II Dependency Needs. These students like striving for precision and clarity in their speech and writing but they reject other external restrictions on their conduct such as are implied in going to parties where all the activities are planned, shining their shoes or brushing their clothes every day, or working for someone who always tells them what to do and how to do it. Although they keep their hostilities toward others to themselves, they are intensely proud and don't like discussing their faults with others or having people laugh at them.

III Expression. These girls like doing whatever they are in the mood to do, without much deliberation. They like to sketch and paint, and they sometimes like eating so much they can't take another bite. They have an expecially strong negative reaction to fantasies of achievement, however, and uniformly reject a variety of common daydreams of success in love, finances, personal power, or self-control.

School Press Characteristics

I Intellectual Climate. The marked intellectual needs and aspirations of these girls are very strongly supported by the press at this school. They all agree that many of the professors are actively engaged in research, and that many students are actively pursuing careers in science. There are also especially strong facilities in the humanities, and the students express their interests in art, music, and the theater in many different ways. Long serious intellectual discussions are common here. There is also much concern with values, and the expression of strong personal convictions is not uncommon. No one needs to be afraid of expressing extreme or unpopular viewpoints at this school. It has an excellent reputation for academic freedom.

Most of the professors are dedicated scholars and thorough teachers. They put a lot of energy into their teaching. Most courses are a real intellectual challenge requiring intensive study and preparation out of class. Tutorial and honors programs are available for qualified students. Professors and students both set high standards and work hard to achieve them, and the competition for grades is intense. If a student fails a course, however, he can usually substitute another one for it.

In class discussions, papers, and exams, the main emphasis is on breadth of understanding, perspective, and critical judgment, and a well-reasoned report can rate an A grade here even though its viewpoint is opposed to the professor's. The faculty members are liberal in interpreting regulations; they respect the students' motives, and treat violations with understanding and tolerance.

The students are treated with dignity and respect: they don't have to answer a lot of embarrassing questions when in need of help, tests are infrequent, grades are not posted publicly or reported to parents, written permission to leave campus overnight is not required, and freshmen don't have to take orders from upperclassmen. Few students have special good luck charms or practices.

Students are encouraged to be independent and individualistic, and there is a high degree of respect for nonconformity and intellectual freedom: students are encouraged in many ways to criticize administrative policies and teaching practices. Channels for expressing student complaints are readily accessible, and when students do not like an administrative decision they really work to get it changed.

II *Non-Intellectual Climate*. The intense rationality of this environment is further reflected in the thorough planning and organization that characterizes most courses. However, students do not have assigned seats, and class attendance is neither taken nor required. An easy informality prevails between students and staff: faculty members, administrators, and counselors are always available and personally interested in the students, call them by their first names, and do not expect to be addressed as "professor" or "doctor."

Religious worship does not stress service or obedience, and chapel services are not well attended. Although students will do things for which they know they may be criticized, they commonly share their problems and are rarely noisy or inattentive at concerts or lectures

Courses stress the speculative or abstract, rather than the practical, and students are encouraged in their daydreams about varied or unusual careers. There is little interest or activity involving charities, community service, or concern with the underprivileged.

There are no social formalities or privileges here: there is no emphasis on tradition, proper social forms or manners, grooming, or various kinds of gracious living. On nice days many classes meet on the lawn. The students are serious and purposeful, spend much time at their studies, and local social activities are rare. Students frequently go away for football games or skiing weekends. There are no sororities.

Student rooms are likely to be decorated with art forms and there is much interest here in all forms of esthetic experience on the part of students and staff. The students are impulsive and excitable, and student parties are colorful. Vivid and novel expressions in papers and reports are encouraged. Rough games and contact sports are an important part of intramural athletics.

The large number of high-consensus AI items indicates a relatively homogeneous Bennington student body, but it is the extensive CCI list which reveals the distinctive qualities of this school. The preoccupation with independence and intellectual achievement that characterizes both the Bennington girls and their institution is common to all but one of the independent liberal arts colleges in the norm sample (the exception is Sweet Briar which resembles the denominational colleges in some respects more than it does the other independents). The item summary also brings out one of the more unique features of Bennington College within this group--the emphasis on esthetic appreciation and creative art.

Marian Item Summary

Student Needs Characteristics

I Achievement Orientation. These girls are particularly interested in abstract intellectual games like chess, checkers, anagrams, scrabble, etc. They are also interested in understanding themselves and others better. They are curious about the arts, and about social problems, and would like to play an active part in community affairs. They set very high standards for themselves and work hard to achieve them, choosing difficult tasks to do and exerting themselves to the utmost in doing them. They particularly reject superstitious practices involving such things as black cats, good luck charms, and fortune tellers.

II Dependency Needs. They not only like striving for precision and clarity in their speech and writing, but they also schedule time for work and play, organize their work carefully, and plan ahead. They make their beds and put things away everyday before leaving the house, and keep their personal possessions in perfect order. These girls like following directions, particularly from an older person who will give them guidance and advice from his own experience. They would like to direct other people's work, but they want others to offer their opinions when they have to make a decision. They don't like arguing with authority figures, and avoid expressing their hostilities openly. They like apologizing when they've done something wrong. Their general tendencies toward self-abnegation are also revealed in their finding satisfaction in suffering for a good cause or for someone they love, and in taking care of the young, the infirm, and the unhappy.

III Emotional Expression. The girls here like being efficient and successful at practical things like typewriting, knitting, clothes-making, etc. Although they like doing something crazy occasionally, like rearranging the furniture, they prefer routine and regularity. They dislike rough games and overeating, but they enjoy listening to the rain on the roof or the wind in the trees, and they like holding something very soft and warm against their skin. They don't care to go around with a crowd that spends most of its time playing around. A very strong trend toward impulse control is revealed in their rejection of emotional expression in any form, and in their avoidance of anything calling attention to themselves either overtly or in fantasy.

School Press Characteristics

I Intellectual Climate. The press at this college provides a fulfillment for the intellectual needs of these girls. The library is exceptionally well-equipped with journals, periodicals, and books in the natural and social sciences. A lecture by an outstanding scientist would be well attended, and many students spend most of their time in the laboratory. The broad social and historical setting of the material is discussed in many courses, and the students are very much interested in the analysis of art and music, and in literary criticism. Many students are concerned with developing their own personal and private system of values, and they also develop a strong sense of social and political responsibility, in part through involvement in the many student organizations active in campus and community affairs (although no faculty member plays any kind of significant role in politics).

"ALMA MATER" is less important than "subject matter" here. most of the professors are dedicated scholars and thorough teachers who put a lot of enthusiasm into their teaching and lectures. There is much student interest in formal discussions. Most courses are a real challenge and require intensive study and preparation: you can't bluff your way through. Students set high standards for themselves, and work hard for high grades on the finals. The exams are genuine measures of achievement, and the highest value is placed on understanding, perspective, critical judgment, careful reasoning, and clear logic, even if the conclusions are opposed to the professor's.

The faculty respect students' motives and are liberal in interpreting regulations. They welcome questions in class, are never moody or unpredictable, and the general atmosphere is a happy one. Few students have good luck charms.

II Non-Intellectual Climate. The girls quickly learn what is done on this campus. Their needs for order and organization are re-enforced in the classrooms where the course purposes are explained clearly, the presentation is well planned, assignments are clear and specific, there is a systematic schedule for studying and recreation, and attendance is taken. This orderliness extends to student papers which must be neat, and their rooms which must be tidy. The classrooms and buildings are also clean and tidy, and campus buildings are clearly marked by signs and directories. The students are conscientious about taking good care of school property.

Despite this emphasis on order, the relations between students and staff are warm. Although counselors are practical and efficient, they and the faculty are always available and personally interested in the students, and call them by their first names. The faculty are especially patient, friendly, and helpful, although the student's personal privacy is recognized and there is no need to answer a lot of embarrassing questions when in need of help. Students are encouraged to be independent. Grades are not publicly posted and freshmen don't have to take orders from upperclassmen. However, tests are frequent and the professors regularly check up on the students to make sure that assignments are being carried out properly and on time.

Students are discouraged from criticizing administrative policies and teaching practices, but student complaints are given consideration. Student organizations are closely supervised, and their activities are planned carefully. Religious worship stresses service to God and obedience to His laws, and chapel services are well attended. Student publications never lampoon anyone, and the faculty are never joked about or criticized in student conversations or in any other way.

The school helps everyone to get acquainted, and everyone is friendly, considerate, and helpful. Students share their problems, and often do personal services for the faculty although there is no apple polishing around here. Although students are careful to follow the rules and regulations, and are never noisy or inattentive, it is true that they occasionally plot some sort of escapade or rebellion.

The atmosphere is practical, emphasizing job security, personal adjustment, family happiness, and good citizenship. The girls are encouraged to be modest and practical in their goals. Education for leadership is strongly emphasized and students are expected to develop ideals and express them in action by means of service to the community.

There are no special groups or privileged students--everyone is treated alike. The girls take great pride in their personal appearance, and there are mirrors in the public rooms and halls. The students are serious and purposeful, spend much time at their studies, and local social activities are rare although there are sororities.

Student parties are colorful and lively, and most students enjoy such activities as dancing, skating, driving, and gymnastics. Rough games and contact sports are an important part of intramural athletics. It's easy to get a group together for games, singing, or going to the movies, and student gathering places are noisy. But sexy remarks, Bermuda shorts and pin-up pictures are uncommon, there are no paintings or statues of nudes on campus, and there is no informal dating during the week.

There are no rough initiations, no one drives sports cars, and drinking would not be tolerated. Students are careful to dress protectively against the weather, and are frequently reminded to take

2

> preventative measures against illness. Students generally show a good deal of caution and self-control in their behavior, and there are few expressions of strong feeling or disruptiveness.

Like Bennington, Marian also has a sufficient number of high-consensus AI items to reflect the homogeneity of its student body. Again, however, it is the extensive agreement in their responses to the CCI that reveals the distinctive character of this school. The very large number of items to which at least 87 per cent of the girls agreed further suggests the high degree of structure and certainty in expectations which must be true of this school, particularly in the area of dependency needs.

The most striking contrast between these two schools lies in the difference in control exercised over the students. The Marian press stresses orderliness, planning and deliberation whereas Bennington encourages nonconformity and personal autonomy. Marian is like the other denominational colleges in this respect. It differs from them, however, in being more concerned with intellectual achievement than most. In this particular it tends to resemble Bennington, although the intensity and the direction of these activities are not quite the same. But the differences between them in their respective treatment of dependency needs are all-pervasive, influencing many aspects both academic and extra curricular of each institution.

The girls themselves at both schools are similar in their intellectuality and seriousness of purpose. But here the similarity ends. Each group of students describes needs that are readily recognizable as personalized versions of the prevailing press. The girls at each of these schools should find it difficult to accept the conditions that prevail at the other. The Bennington girls would consider the parochial school atmosphere stultifying and restrictive and would no doubt shock faculty and administration with behavior which must seem disrespectful, brazen and thoughtless in that context. Conversely, the Marian students are likely to find the nondenominational atmosphere lacking in order, restraint and consideration, as well as in being irreligious.

Syracuse University

An entirely different liberal arts press is to be found at the large universities. The school chosen for this comparison, Syracuse University, is a private institution with a press pattern (Figure 36) resembling neither Bennington nor Marian. It is characterized chiefly by a rigorous control over student activities (low student dignity), minimal standards for academic achievement, and a high level of collegiate play. The student body is relatively heterogenous, particularly the girls; the men are inclined to be socially outgoing and self-assured (Figure 37).

The high degree of unanimity among the Bennington and Marian girls in responding to the CCI reflects the uniformity and the pervasiveness of the press at those schools--everyone shares the same experiences. The Syracuse data on the other hand indicates greater variability of response at the larger institution, even within the single administrative unity represented by its College of Liberal Arts. The standard deviations of the factor scores for each school listed in Table 39 are on the average about 50 per cent larger for the university-affiliated liberal arts college than for the two smaller schools.

The difference must be at least partially attributable to the greater percentage of nonresident students, one in three, attending the university and resulting in a consequently lower total exposure to the common press. But it also seems likely that the more complex institution is in fact characterized by several different press, each corresponding to some particular subculture within the larger macrocosm.

Fig. 36. Syracuse University, College of Liberal Arts press profile. (N=422)

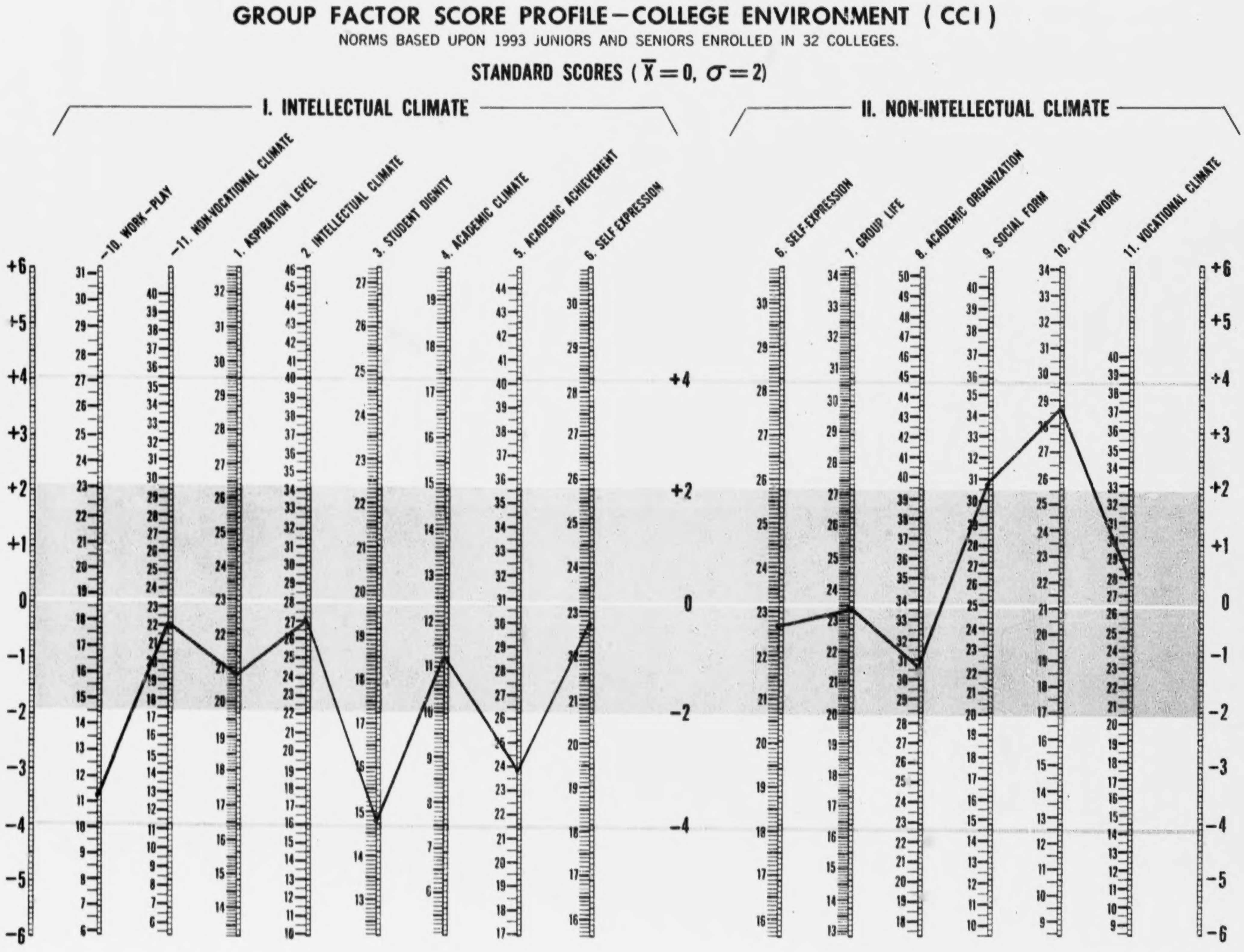


Fig. 37. Syracuse University, College of Liberal Arts, student body needs profiles.

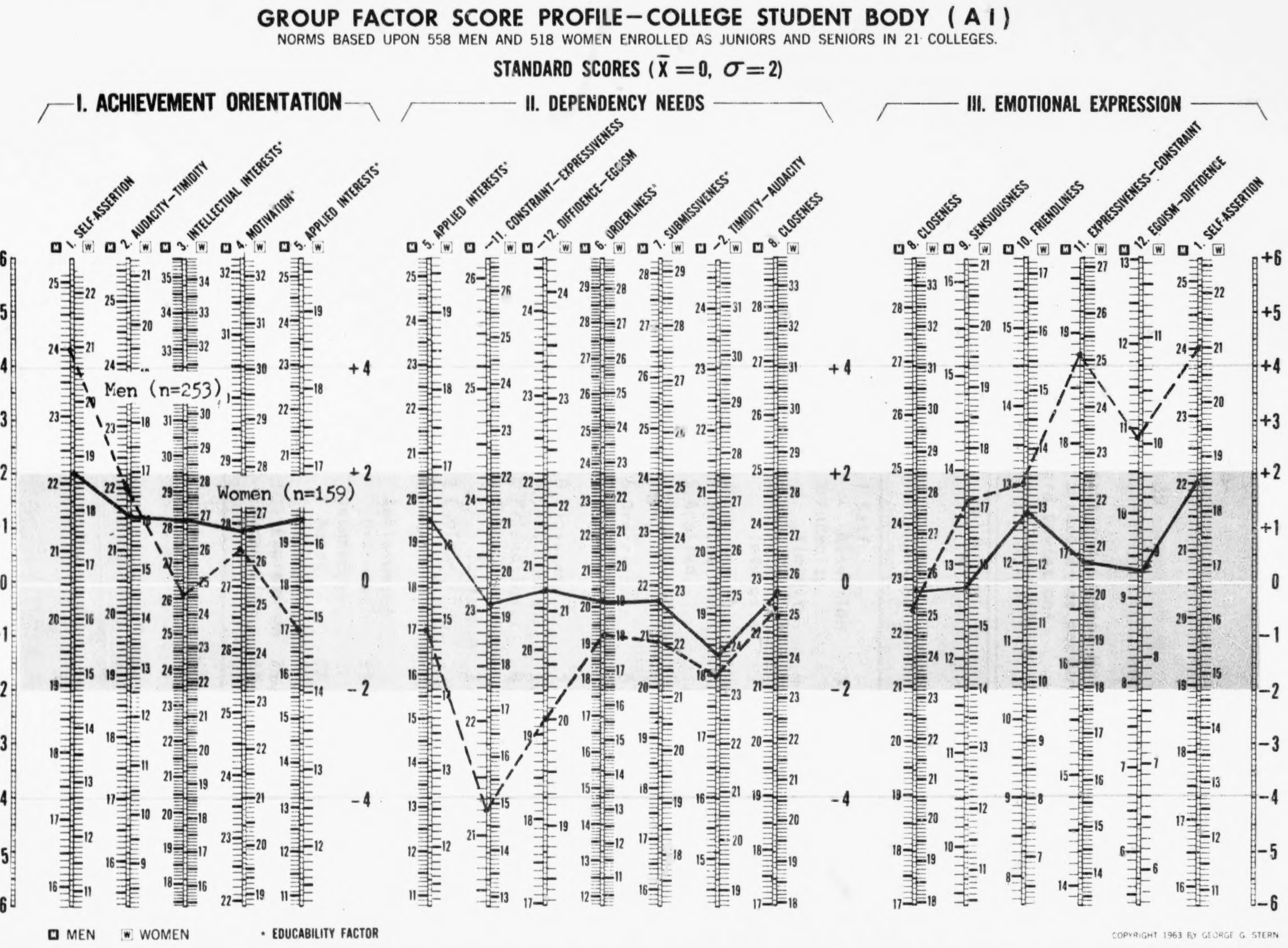


Table 39

Differences in Press Consensus and Student Homogeneity
at Bennington, Marian and Syracuse--as measured by
Factor Standard Deviations

	Press-CCI				Personalities-AI			
Factor	Bennington	Marian	Syracuse LA	Factor	Bennington	Marian	Syracuse LA Women	Men
1 Aspiration level	3.5	3.6	5.1	1 Self Assertion	7.5	6.7	7.7	8.1
2 Intellectual Climate	4.1	6.7	7.8	2 Audacity Timidity	4.9	5.2	5.6	6.6
3 Student Dignity	3.7	2.2	4.9	3 Intellectual Interests	7.6	7.0	7.3	8.2
4 Academic Achievement	2.3	3.3	3.9	4 Motivation	5.4	5.4	6.3	5.9
5 Non-academic Achievement	4.8	4.0	8.4	5 Applied Interests	6.0	5.6	6.3	6.6
6 Self-Expression	4.3	3.9	6.3	6 Orderliness	6.4	4.9	7.0	7.2
7 Group Life	3.0	2.9	5.0	7 Submissiveness	6.1	6.3	5.9	6.0
8 Academic Organization	5.4	4.4	6.0	8 Closeness	7.0	3.9	6.0	6.2
9 Social Form	4.4	4.4	5.6	9 Sensuousness	5.5	5.1	5.0	5.2
10 Play-Work	4.6	3.6	4.1	10 Friendliness	4.4	4.0	4.0	4.1
11 Vocational Climate	3.6	3.4	4.0	11 Expressiveness-Constraint	7.0	5.6	6.9	6.2
				12 Egoism-Diffidence	4.2	3.1	4.4	4.8
I Intellectual Climate	19.2	19.2	31.5	I Achievement Orientation	23.2	22.1	23.2	26.1
II Non-Intellectual Climate	16.2	14.3	20.3	II Dependency Needs	22.2	18.3	22.4	23.1
III Carnival Atmosphere	19.2	6.1	8.2	III Emotional Expression	26.8	20.4	26.3	25.0
				IV Educability	22.8	21.6	23.8	24.2

The largest discrepancies in Table 39 are associated with factors 5, 6 and 7, suggesting on the one hand that the emphasis on academic achievement self-expression and group life at the university is perceived differently by various groups of students there. It may be inferred in fact, from the magnitude of the area score deviations, that for some students at least the intellectual climate of the institution is much more favorable and its nonacademic activities far less structured than the profile in Figure 36 indicates. This is a question we shall explore in more detail in the next chapter.

The students themselves are not much more variable around their own respective personality means at any one of the three schools, except for three characteristics of the Marian girls: orderliness, closeness, and dependency (the area score associated with the first two). In these particular respects there is more selectivity at Marian than elsewhere, not necessarily by the college itself perhaps as by the homogeneity of the population from which it recruits.

The high consensus items give us a fairly clear picture of the ways in which the Syracuse girls differ from those at Marian and Bennington. Although the descriptions are much shorter because of the greater diversity of response, the items to which 87 per cent or more of the girls have agreed are still sufficient to provide some picture of their uniqueness as a student body.

Syracuse Liberal Arts Item Summary

Student Needs Characteristics (Women)

> I Achievement Orientation. The Syracuse liberal arts girl likes to engage in mental activity. She enjoys concentrating intently on a problem and losing herself in hard thought. Talking about music, theater, or other art forms with people who are interested in them is also important to her. She is interested in the causes of social, political, and personal problems. She enjoys reading stories that try to show what people really think and feel inside themselves, tries to figure out why people behave the way they do, and considers improvement in self-understanding important.

There is also a practical side to the Syracuse coed. She wants to be efficient and successful in practical affairs, and would like to be good at typewriting, knitting, carpentry, and other useful skills. She will exert herself to the utmost for something unusually important or enjoyable, but sees no point in fantasies of being either a famous movie star or a brilliant military figure, and has no interest in toughening herself, going without an overcoat, seeing how long she can go without food or sleep, etc. She also rejects astrology, fortune-telling, and other forms of superstition.

II Dependency Needs. These girls dislike working for someone who tells them exactly what to do and how to do it, but they do value having others offer opinions when they have to make a decision. They like comforting others who are feeling low, dislike being laughed at for their mistakes.

III. Emotional Expression. Syracuse girls do things on the spur of the moment, as the mood strikes them, even something crazy occasionally for the fun of it. They like to go to a party or dance with a lively crowd, and enjoy inviting a lot of people home for a snack or party. But they are also sensitive to the sound of rain on the roof or the wind in the trees, like to hold something soft and warm against their skin, and are romantic with someone they love. They are not in love with love, however: daydreaming about being in love with a particular movie star or entertainer is strongly rejected.

The Syracuse women thus fall somewhere between those of Bennington and Marian, reflecting a little of the intellectuality of both, the independence of Bennington, the practicality of Marian, and a sensuality all their own. The men don't come through quite so clearly from the items, but there is enough to suggest the essential compatability of the sexes at this school.

Students Needs Characteristics (Men)

I Achievement Orientation. The Syracuse liberal arts male likes to concentrate intently on a problem. He is interested in learning about the causes of some of our social and political problems as well as understanding himself better, and would like to be efficient and successful in practical affairs. He welcomes competition with others for a prize or goal and will exert himself to the utmost for something unusually important or enjoyable. He is not superstitious.

II Dependency Needs. These men dislike working for someone who always tells them exactly what to do and how to do it. They also dislike having people laugh at their mistakes.

III Emotional Expression. They like doing things on the spur of the moment, but control their emotions in public situations. Active outdoor sports are popular. Syracuse men also find satisfaction in having others depend on them for ideas or opinions and in talking people into doing things they think ought to be done.

School Press Characteristics

I Intellectual Climate. Many of the professors in both the natural and social sciences are engaged in research. Tutorial or honors programs are available for qualified students. There are student organizations actively involved in campus or community affairs. Many famous people are brought to campus for lectures, concerts, student discussions, etc. There are many foreign students on campus, and a great variety in nationality, religion and social status.

II Non-Intellectual Climate. Students quickly learn what is done on this campus. Papers and reports must be neat. The college offers many really practical courses such as typing, report writing, etc. The future goals for most students emphasize job security, family happiness, and good citizenship.

There is plenty to do here besides going to classes and studying. Students have many opportunities to get together in extracurricular activities. There are many fraternities and sororities, and lots of dances, parties and social activities. There is an extensive program of intramural sports and informal athletic activities. Students frequently go away for football games, skiing weekends, etc. Every year there are carnivals, parades and other festive events on campus. There is a lot of excitement and restlessness just before holidays.

Student gathering places are typically active and noisy. There are several popular spots where a crowd of boys and girls can always be found. Students spend a lot of time together at the snack bars, taverns, and in one another's rooms. There is a lot of informal dating during the week...at the library, snack bar, movies, etc. It's easy to get a group together for card games, singing, going to the movies, etc. Jazz bands and novelty groups are more popular here than society orchestras. Bermuda shorts, pin-up pictures, etc., are common on this campus. There are paintings or statues of nudes.

This atmosphere is clearly different from the two women's colleges. Would either of these two groups of girls find it difficult to adapt themselves to this press? Both the Bennington and the Marian girls are likely to find Syracuse tempting in ways that would be unheard of at their own institutions. But in the long run it is probable that they would each reject it for their own reasons, just as the average Syracuse girl would find Bennington and Marian unacceptable. It might also be inferred that the Syracuse male would find Bennington and Marian girls incompatible, a feeling that would in all likelihood be reciprocated.

The important question here, however, is not which boys find which girls attractive, nor even which students find which schools congenial. The only issue of significance is whether each of these various press can be equally justified as an educational milieu. Do they all perhaps achieve the same ends, adapting the means to the needs of their respective student bodies? Or are these differences in press really a reflection of very different institutional purposes?

We shall return to these questions again very soon. But first, in the chapter following this one, the extent to which such differences may coexist even on the same campus will be explored.

Chapter V

DIFFERENCES WITHIN THE LARGE UNIVERSITY

There are many possible sources of variation in the reported press at an institution. We have already seen something of the effect of differences in expectation (and shall learn still more about this in the last chapter of this section). Differential images are not limited to incoming freshmen, of course. Webb and Crowder (1961a) and Cohen and Stern (1966) have made comparable studies of the responses of trustees and administrators, finding at both Emory and Cazenovia that these two groups neither agree with one another nor with upperclassmen and faculty. The study of such institutional images offers other interesting possibilities. The Cazenovia subgroups, for example, were asked to respond to the CCI in terms of the kinds of changes they hoped to achieve in the next five years, revealing an unexpected consensus for a number of realizable objectives. The responses of parents, high school counsellors, townspeople, etc., suggest other publics whose perception of a college could be useful to know.

But active participants in campus life may themselves be exposed to real differences in the academic environment. Pate (1964) and Skorpen (1966) have compared CCI responses from various types of residence settings with one another at Boston University and Purdue, LeBold (1961) has factored the faculty and student environment at Purdue, Lovelace (1964) studied three colleges forming an interacting complex: Woman's College, Trinity, and Duke University, and Weiss (1964) has contrasted the five basic divisions of St. Louis University.

The natural organization of the large university into separate colleges, serving different purposes and clientele, suggests itself as the most likely source of environmental variation to examine with the indexes. Ten such groups were identified among the 1960 graduating seniors at Syracuse University and their CCI and AI scores compared with one another.

Individual Colleges and Schools at Syracuse University

The ten subdivisions whose profiles are shown superimposed in Figure 38 are:

	N
School of Architecture	20
School of Art	102
College of Business Administration	89
School of Education	85
L.C. Smith College of Engineering	64
N.Y. State College of Forestry at Syracuse University	84
College of Home Economics	57
College of Liberal Arts	422
School of Nursing	15

The tenth is not, properly speaking, a school or college but consists of 54 students who had matriculated as joint majors in the School of Education and the College of Liberal Arts.

Although the ten profiles show a strong resemblance to one another, the spread from factor to factor is actually quite large. All but two of the 11 factors and both areas I and II are significant beyond the .001 level. The exceptions are Factor 8 Academic Organization, significant at the .05 level, and Factor 10 Vocational Climate that shows very little variation at all.

Two schools stand out in particular, Forestry and Business Administration, according to the Scheffé test values summarized in Table 40. All but the smallest

Fig. 38. Press scores for individual colleges and programs at Syracuse University.

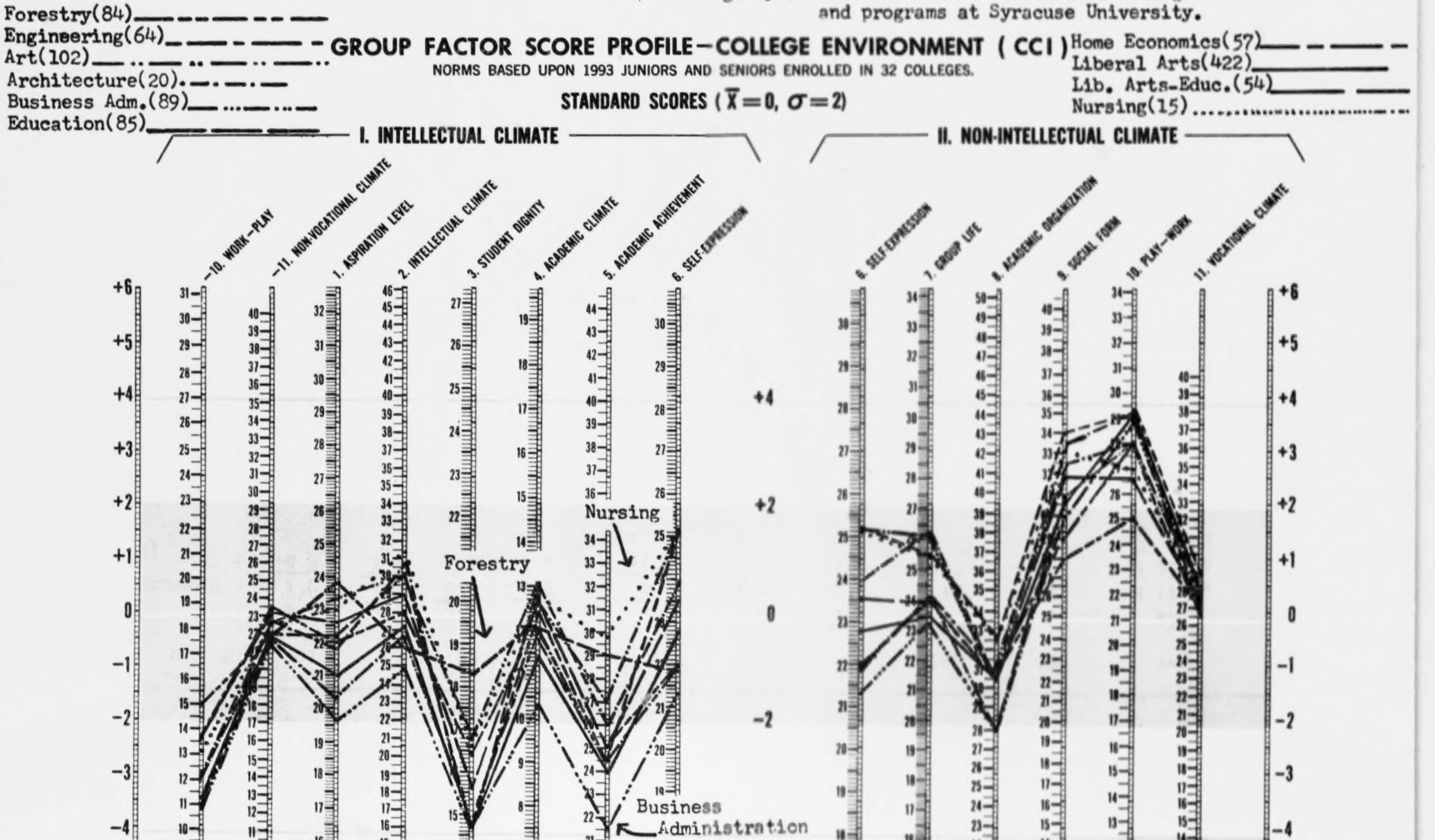


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Table 40

Press Differences Between Colleges Within Syracuse University

Factor	Arch.	Art	Bus. Admin.	Educ	Eng.	Forestry	Home Economics	Liberal Arts	Liberal Arts Educ.	Nursing	F[b]	Total Class[c]
	Standard Score Means[a]											
1 Aspiration Level	-1.6	0.1	-1.9	-0.5	0.6	-0.1	-0.7	-1.2	-0.8	0.1	4.30***	-0.9
2 Intellectual Climate	-0.5	0.1	-1.2	0.6	-0.2	-0.6	0.9	-0.4	0.3	1.0	6.05***	-0.1
3 Student Dignity	-4.6	-3.7	-4.1	-4.3	-2.6	-1.2	-4.4	-3.9	-3.3	-2.7	5.75***	-3.6
4 Academic Climate	-0.6	-0.2	-1.8	-0.1	-0.3	-0.3	0.4	-0.9	0.1	0.3	3.56***	-0.6
5 Academic Achievement	-3.0	-1.7	-3.9	-2.2	-2.5	-1.6	-2.1	-3.0	-2.5	-0.5	3.87***	-2.6
6 Self-Expression	-1.0	1.4	-1.5	1.5	-1.0	-1.2	1.1	-0.3	0.2	1.5	4.41***	-0.1
7 Group Life	0.2	1.2	-0.2	1.0	0.2	0.8	1.3	-0.0	0.2	1.1	4.15***	0.4
8 Academic Organization	-2.5	-1.4	-1.4	-0.5	-1.1	-1.4	-1.2	-1.2	-1.3	-0.4	2.11*	-1.2
9 Social Form	2.0	2.7	1.9	3.3	1.3	1.0	3.1	2.0	2.5	3.0	9.41***	2.2
10 Play-Work	3.3	3.4	3.7	3.7	2.4	1.9	3.7	3.5	3.7	2.7	8.28***	3.3
11 Vocational Climate	0.6	0.2	0.8	0.4	0.3	0.2	0.4	0.4	0.2	0.3	1.67	0.4
1 Intellectual Climate	-2.0	-0.9	-2.5	-1.2	-1.3	-1.0	-1.1	-1.8	-1.3	-0.4	5.35***	-1.6
2 Non-intellectual Climate	0.7	1.6	1.0	2.1	0.6	0.3	1.8	1.1	1.3	1.8	5.13***	1.2
3 Carnival Atmosphere	3.7	2.8	3.1	2.4	2.1	2.0	2.9	2.8	3.0	1.7	2.83**	2.7
N	20	102	89	85	64	84	57	422	54	15	--	992

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[a] $\bar{x} = 0$, $\sigma = 2$; underlined numbers designate primary sources of significant variation according to Scheffé test, the key group by a double line.

[b]
.001 = ***
.01 = **
.05 = *

[c] 1960 graduating seniors

of the ten groups show significant differences on several factors, however, and even the nonsignificant Nursing group is clearly divergent from the others and lacking only in size to be statistically differentiable.

Three of the most distinctive groups, the two above plus the School of Art, are shown in Figure 39. The profiles make it clear that Forestry is least like the others. This is in fact the most independent of the ten units. representing a state university unit operated on the Syracuse campus but enjoying a much greater degree of independence than any of the others. The remaining nine groups tend to share facilities and classes, to varying degrees, although Nursing and Business Administration were least involved in such exchanges at the time these data were collected. It is interesting to note, however, that both the Art and Business Administration students report almost the same kind of nonacademic details, including student dignity, but differ considerably in the kind of academic climate they each experience.

The male AI profiles are shown in Figure 40. There is a good deal of variation here involving reasonably large samples for the most part that could probably be best sorted out by means of a multiple discriminant function. The men from the three schools singled out previously have been separated out for convenience in Figure 41. It is evident that the Art students are the most highly motivated expressive, and least practically oriented of the three, but the Business Administration males the most friendly and self-assertive but least intellectual, and the Foresters the most constrained. Their respective environments seem relevant enough, although one might expect that the Business Administration and Arts students would utilize the extracurricular facilities they share according to Figure 39 in somewhat different ways.

Fig. 39. Press scores for three selected colleges(Business Administration, Art, and Forestry) at Syracuse University.

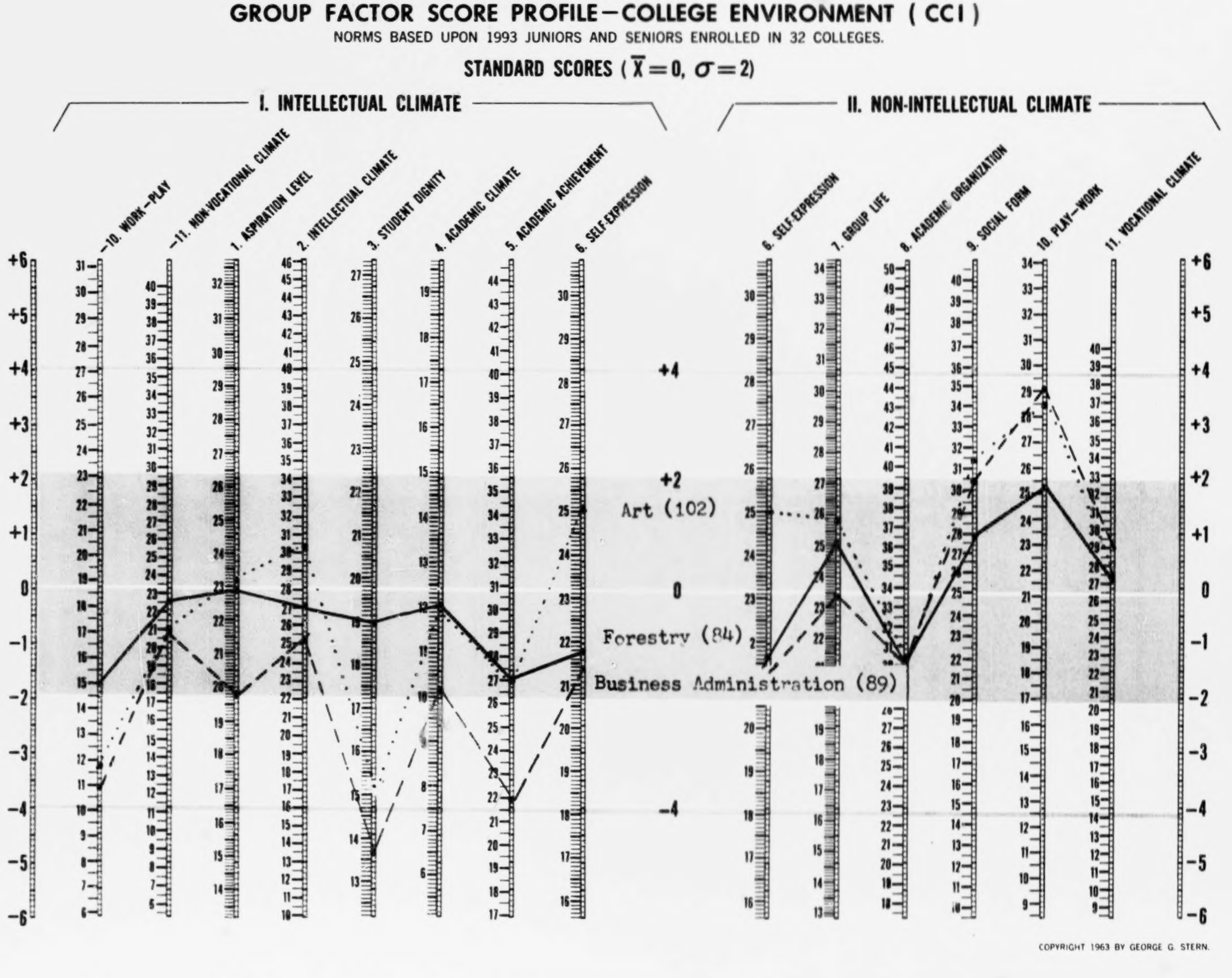


Fig. 40. Syracuse University men in various colleges and programs.

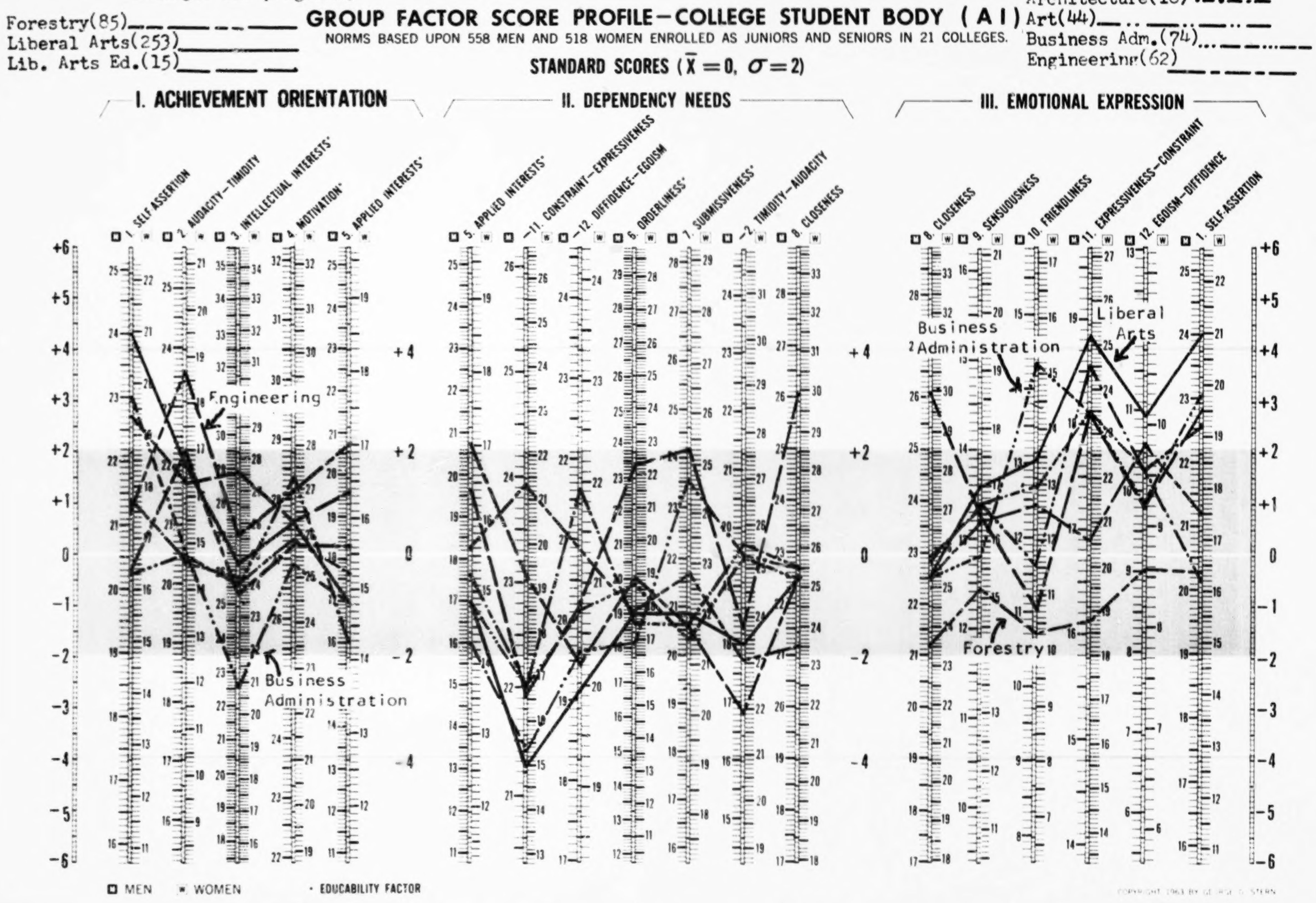
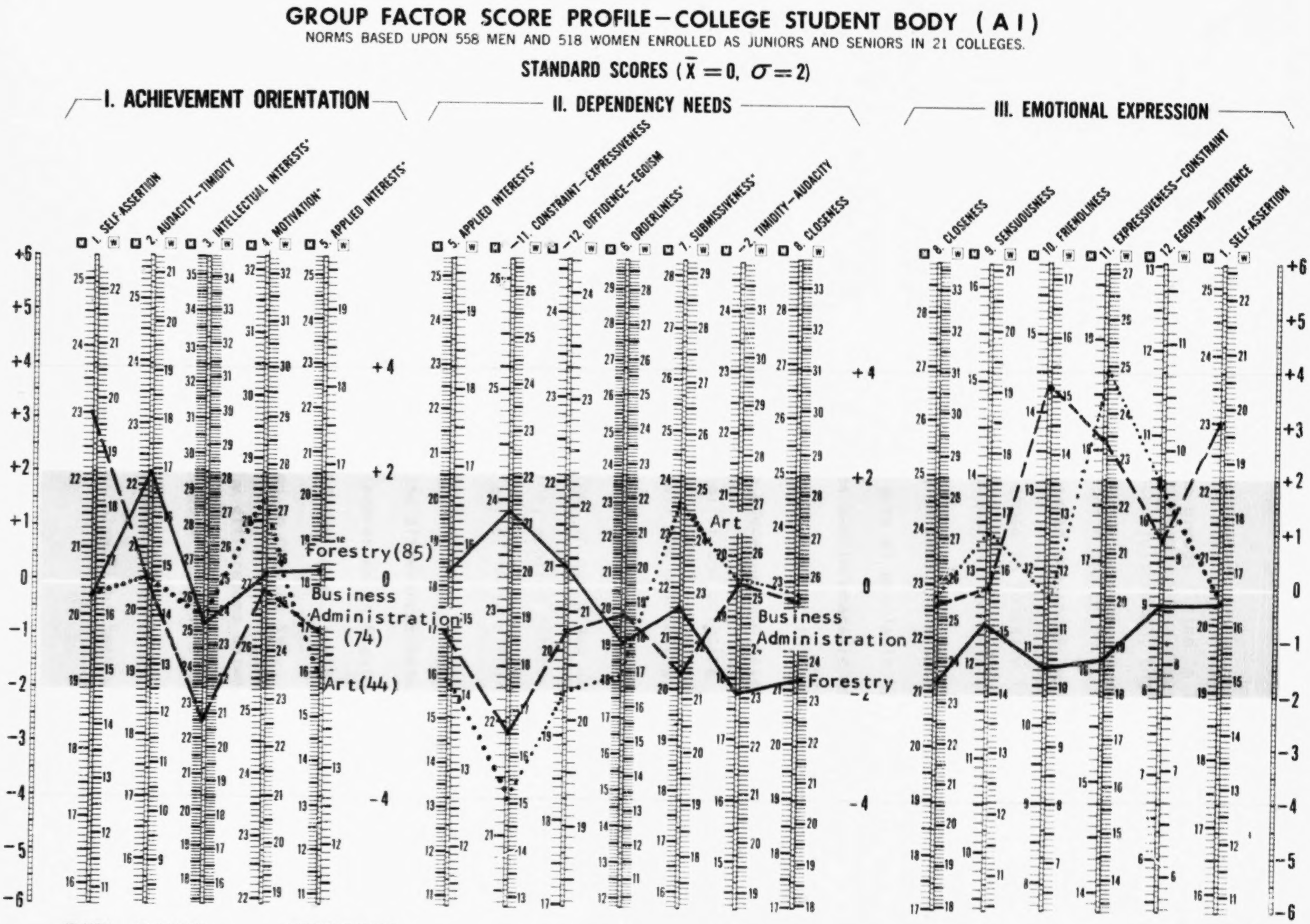


Fig. 41. Syracuse University men in three selected colleges (Business Administration, Art, and Forestry) at Syracuse University.



The F's and Scheffé values between groups listed in Table 41 indicate that, in addition to the differences just noted, Engineering and Liberal Arts men also contribute to the variety of the mix. The former are the most applied in orientation among the seven subgroups, while the Liberal Arts men are at the opposite extreme from those in Forestry in aspects of emotional expressiveness.

The differences between the women in area I are much larger than those for the men. As can be seen from Figure 42 and Table 42 it is the extreme lack of interest in intellectual activities and in academic motivation among the girls in Business Administration that accounts for this. The other interesting group here are the students in Education who resemble the Arts majors in many respects but are much friendlier and outgoing. The high level of applied interests for both groups suggests the motivating factor for both groups of girls, and reflects a rather striking difference between the men and women in Art. The nurses are another unique group among the women with exceptionally high scores in motivation, applied interests and submissiveness, but their small numbers prevent any of these differences from reaching significance.

One of the ways of representing the differences between these ten groups is to plot their second-order area scores as in Figure 44. This preserves much of the information in Figure 38 and lends itself to a multigroup analysis of variance such as that described in Chapter XVI. However. this is clearly only a part of the picture. The differences between these subgroups are further reflected in relationships with student personality, but the complexity of these interactions requires a different model than the one we have been using. Had the need and press dimensions been as parallel as

Table 41

Male Personality Differences Between Colleges Within Syracuse University

	Standard Score Means[a]								
Factor	Arch	Art	Bus. Admin.	Engr.	Forestry	Liberal Arts	Liberal Arts Educ.	F[b]	Total Class[c]
1 Self Assertion	1.0	-0.4	3.2	0.9	-0.3	4.4	2.7	3.84***	2.6
2 Audacity-Timidity	-0.2	-0.0	0.0	3.2	2.0	1.8	1.4	1.65	1.5
3 Intel. Int.	-0.5	-0.7	-2.6	0.6	-0.8	-0.3	1.6	3.04**	-0.6
4 Motivation	0.2	1.4	-0.2	1.5	0.1	0.6	0.6	0.50	0.5
5 Applied Int	-0.4	-1.8	-0.9	2.3	0.2	-0.8	1.4	4.24***	-0.3
6 Orderliness	-1.3	-1.7	-0.6	-0.4	-1.1	-1.0	1.7	1.26	-0.9
7 Submissiveness	-1.3	1.5	-1.7	-1.3	-0.4	-1.0	2.1	2.51*	-0.8
8 Closeness	-1.0	-0.2	-0.3	-0.3	-1.8	0.6	3.2	1.55	-0.6
9 Sensuousness	0.1	1.0	0.0	0.7	-0.7	1.4	1.0	0.71	0.8
10 Friendliness	1.8	-0.2	3.6	1.0	-1.6	1.8	-0.9	6.26***	1.2
11 Exp.-Const.	2.5	3.9	2.9	0.1	-1.2	4.3	2.7	2.62	2.7
12 Egoism-Diffidence	-1.2	1.9	1.0	2.1	-0.3	2.7	1.0	2.62*	1.7
1 Achievement Orientation	-0.1	-0.6	-0.8	2.3	0.1	1.1	2.1	1.77	0.7
2 Dependency Needs	-1.6	-2.0	-1.9	-1.2	-1.4	-2.9	1.9	1.81	-2.1
3 Emot. Exp.	1.0	2.1	4.5	1.9	-2.9	6.0	4.9	3.26***	3.5
4 Educability	-1.3	-0.9	-2.3	0.8	-0.9	-1.0	2.6	1.96	-0.8
N	18	44	74	62	85	253	15	--	551

---

[a] $\bar{x} = 0$, $\sigma = 2$; underlined values designate primary sources of significant variations according to Scheffé test, the key group by a double line.

[b] .001 = ***
.01 = **
.05 = *

[c] 1960 graduating seniors

Fig. 42. Syracuse University women in various colleges and programs.

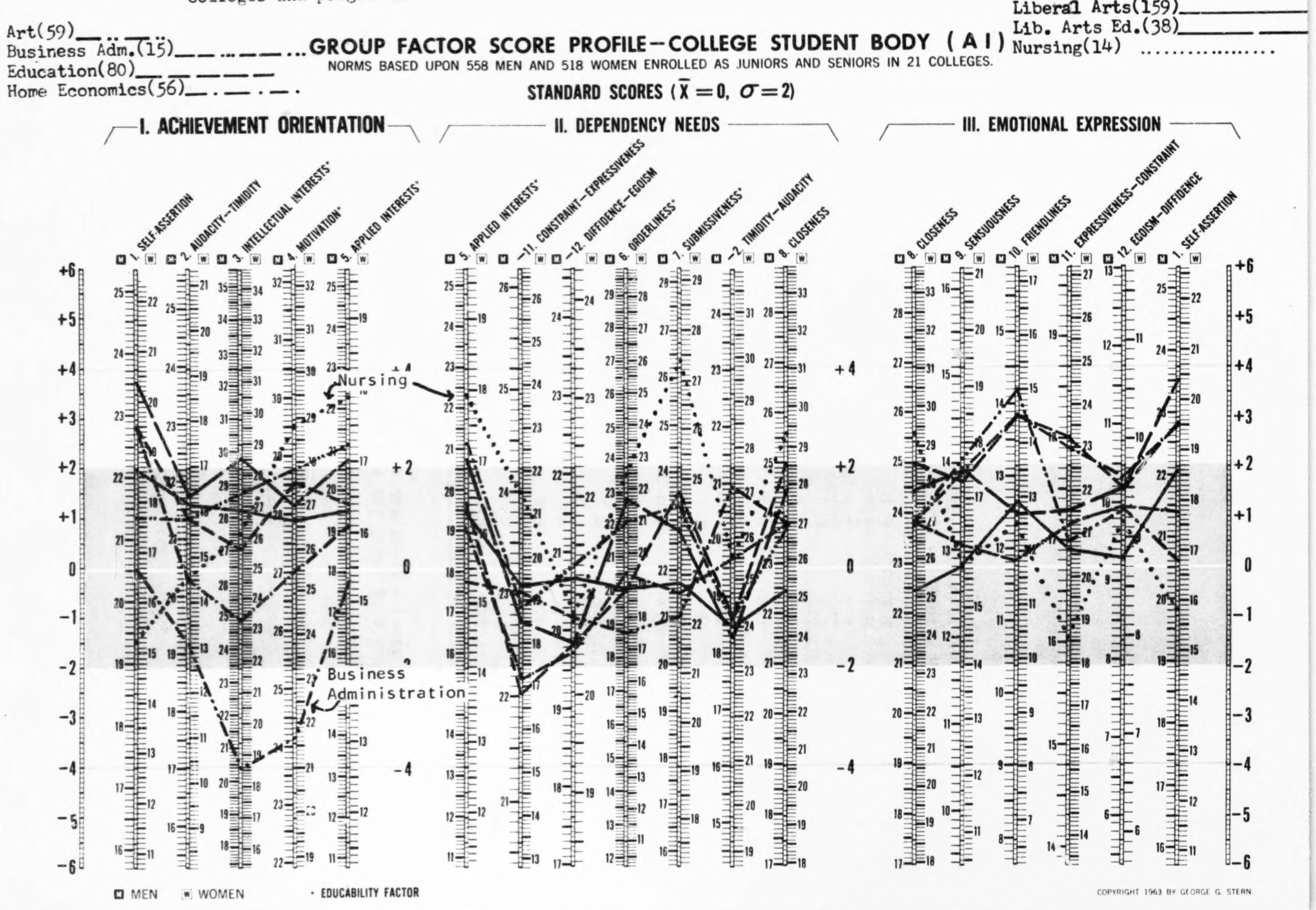


Table 42

Female Personality Differences Between Colleges Within Syracuse University

Factor	Admin.	Art	Educ.	Home Economics	Liberal Arts	Liberal Arts Educ.	Nursing	F[b]	Total Class[c]
	Standard Score Means[a]								
1 Self-Assertion	0.0	1.1	2.7	2.9	1.9	3.6	-0.8	1.24	2.1
2 Audacity-Timidity	-1.7	1.0	1.2	-0.2	1.3	1.4	-0.3	1.28	0.9
3 Intel. Interests	-4.1	1.4	1.1	-1.0	1.2	2.3	0.7	5.46^{***}	0.8
4 Motivation	-3.3	2.0	1.9	-0.1	0.9	1.3	2.8	2.92^{**}	1.1
5 Applied Interests	-0.2	2.5	1.5	1.0	1.2	2.2	3.5	0.47	1.5
6 Orderliness	-1.3	0.8	-0.4	-0.2	-0.3	1.4	2.2	2.18^{*}	0.0
7 Submissiveness	-1.1	1.3	1.7	-0.5	-0.4	0.7	4.2	2.91^{**}	0.4
8 Closeness	0.9	1.0	2.1	0.9	-0.1	1.6	2.6	2.90^{**}	0.9
9 Sensuousness	2.2	0.3	1.7	2.0	-0.1	2.0	0.0	1.93	0.9
10 Friendliness	3.6	0.2	2.9	3.0	1.3	1.0	0.8	5.23^{***}	1.7
11 Expressiveness-Constraint	0.3	0.8	2.4	2.3	0.4	1.2	-1.5	2.05	1.1
12 Egoism-Diffidence	1.1	1.1	1.8	1.7	0.2	1.5	1.1	0.39	1.0
1 Achievement Orientation	-3.2	2.2	2.3	0.4	1.8	3.1	1.4	2.50^{*}	1.7
2 Dependency Needs	-0.3	0.7	0.0	-0.5	-0.5	0.7	3.6	1.74	0.0
3 Emotional Exp.	2.2	1.2	3.9	3.5	1.0	3.1	0.7	2.10^{*}	2.1
4 Educability	-3.6	2.3	1.6	-0.5	0.8	2.6	3.8	3.88^{***}	1.1
N	15	80	59	56	159	38	14	--	421

[a] $\bar{x} = 0$, $\sigma = 2$; underlined values designate primary sources of significant variations according to Scheffe test, the key group by a double line.

[b]
.001 = ***
.01 = **
.05 = *

[c] 1960 graduating seniors

Fig. 43. Syracuse University women in three selected colleges, (Business Administration, Art, and Education) at Syracuse University

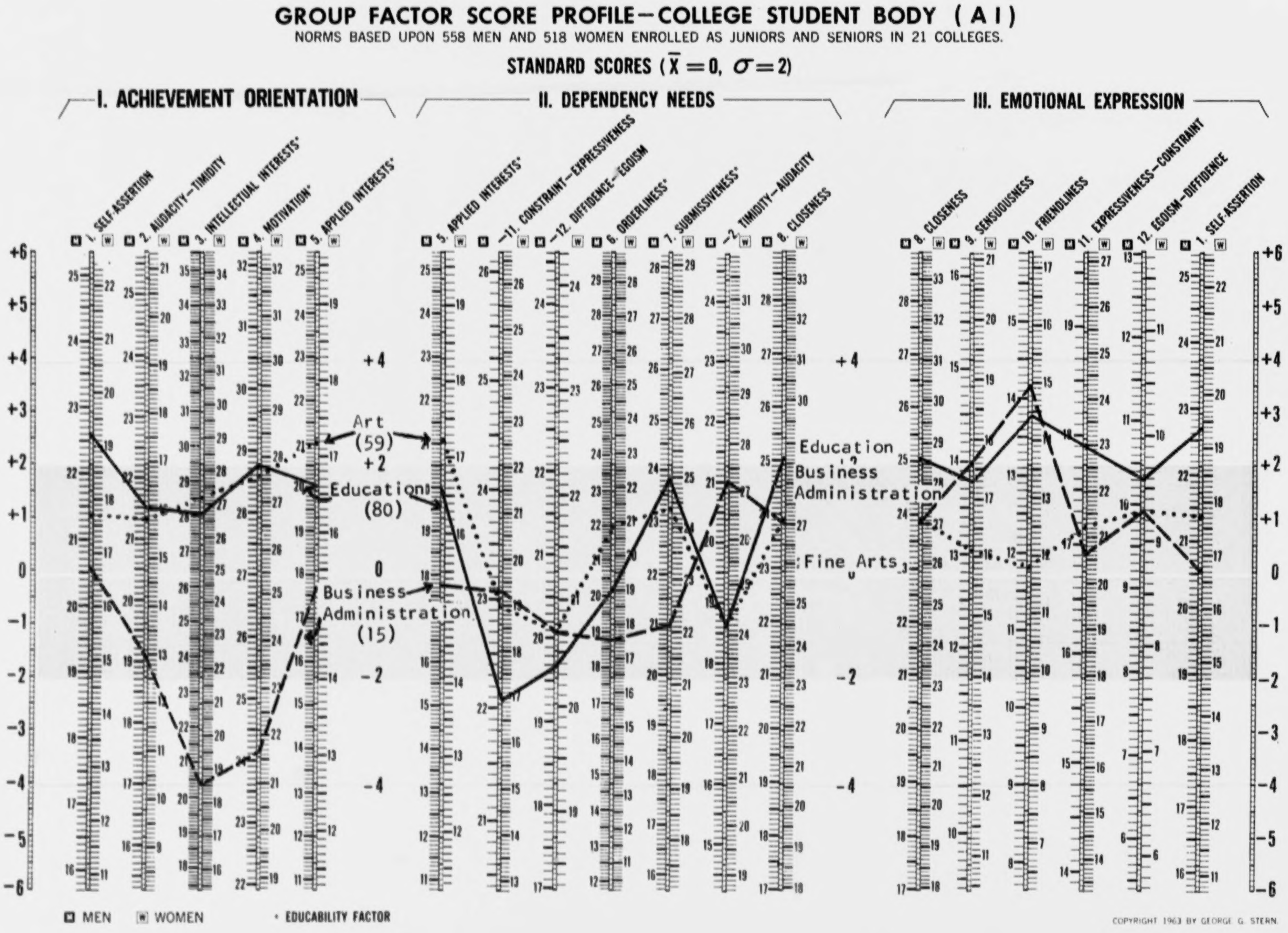


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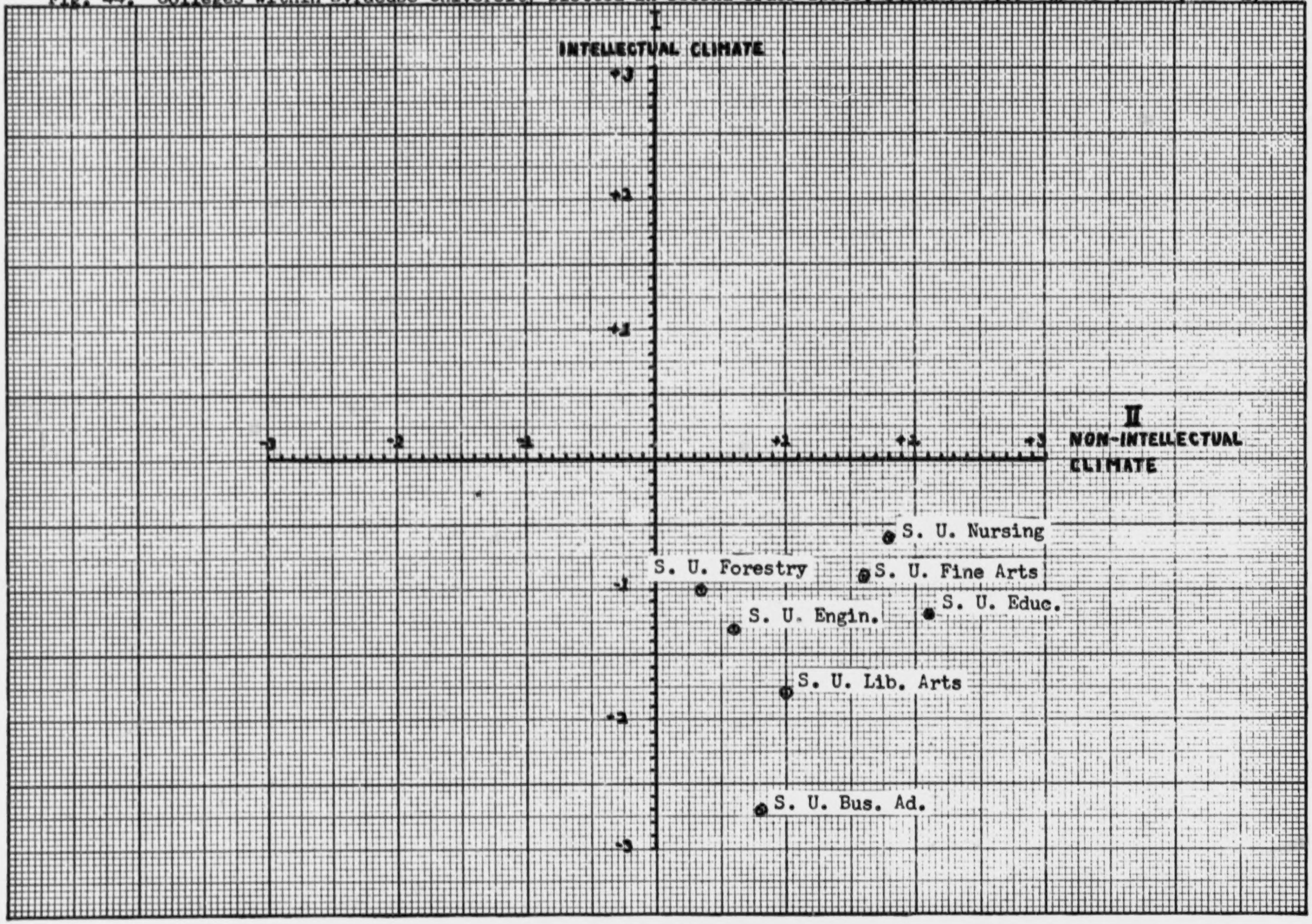
Fig. 44. Colleges within Syracuse University plotted in second order space, standard score units ($\overline{X} = 0$, $\sigma = 2$)



their respective input constructs things would have been different, but insofar as they are not the common space in which need and press dimensions interact still remains to be isolated. This is a new and previously unanticipated problem (although it could have been foreseen). The solution will be given in Chapter XIV, after the presentation of the remaining aspects of these initial investigations has been completed.

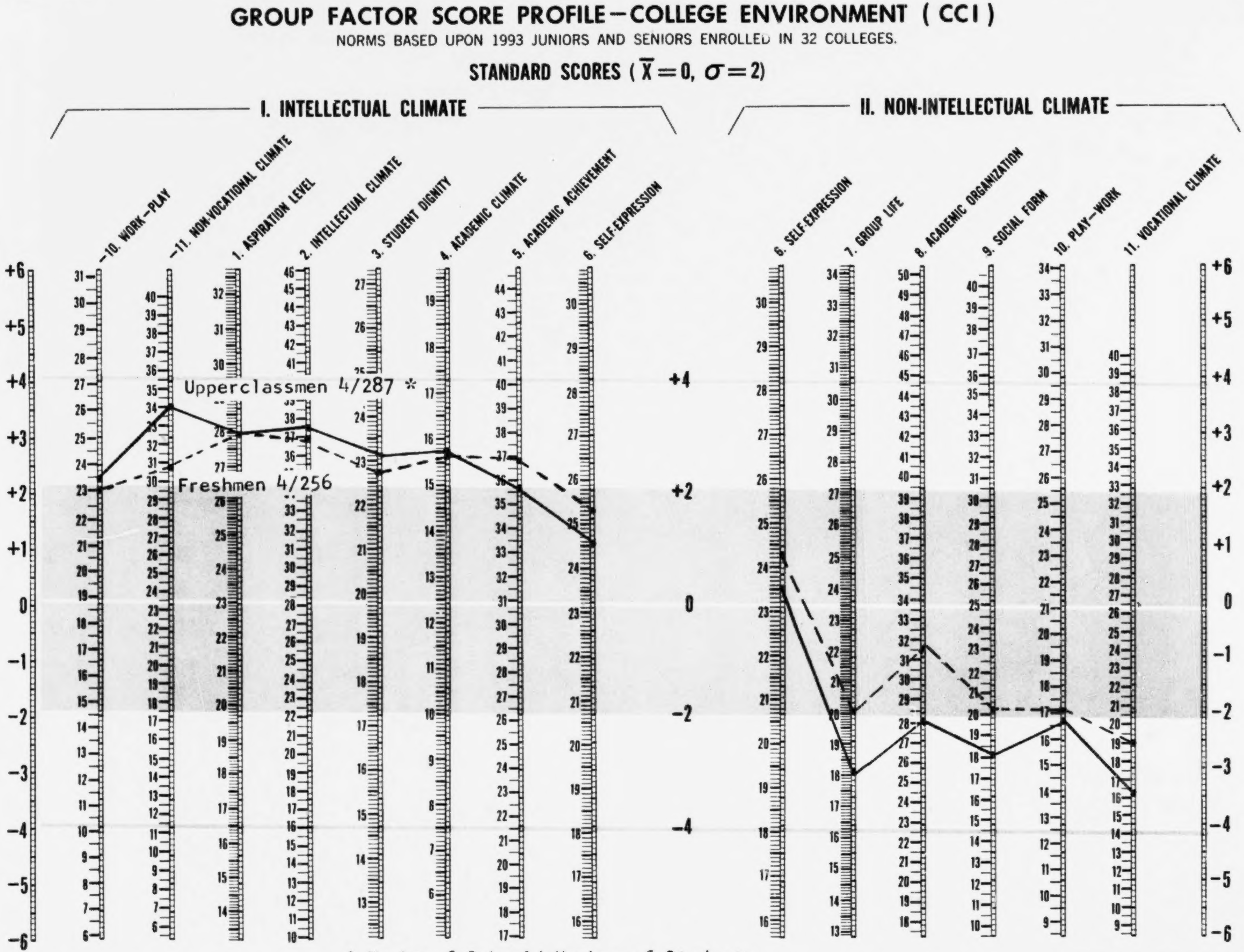
Differences Between Educational Levels

Another possible source of intrainstitutional differences possibly affecting even the small school derives from differences in organizational structure from one class level to the next. This may be a relatively subtle difference, if any at all, at the typical small liberal arts college, or it may involve a very substantial change in the case of an institution that substitutes tutorials and research for the conventional course plan in the junior or senior year. The latter situation would be exceptional, although unpublished CCI data collected by Lawrence Purvin at Princeton reflects such changes.

Chickering (1962), Rowe and Airth (1961), Rowe (1962), Webb and Crowder (1961b), and Weiss (1964), in studies at Goddard, Randolph-Macon Women's College, Emory and St. Louis respectively, all report differences between freshmen and senior press profiles. The largest by far are those found by Chickering who retested the same group four semesters apart, thus providing something of a picture of institutional change.

Some idea of the magnitude of these differences as compared with those between colleges can be gotten from Figures 45 and 46. The first of these two figures compares the responses of freshmen and seniors at Bryn Mawr, Oberlin, Shimer and Vassar. The differences here are very small, confined largely to the

Fig. 45. Differences between freshman and senior environments at four elite liberal arts colleges.



* Numberof School/ Number of Students

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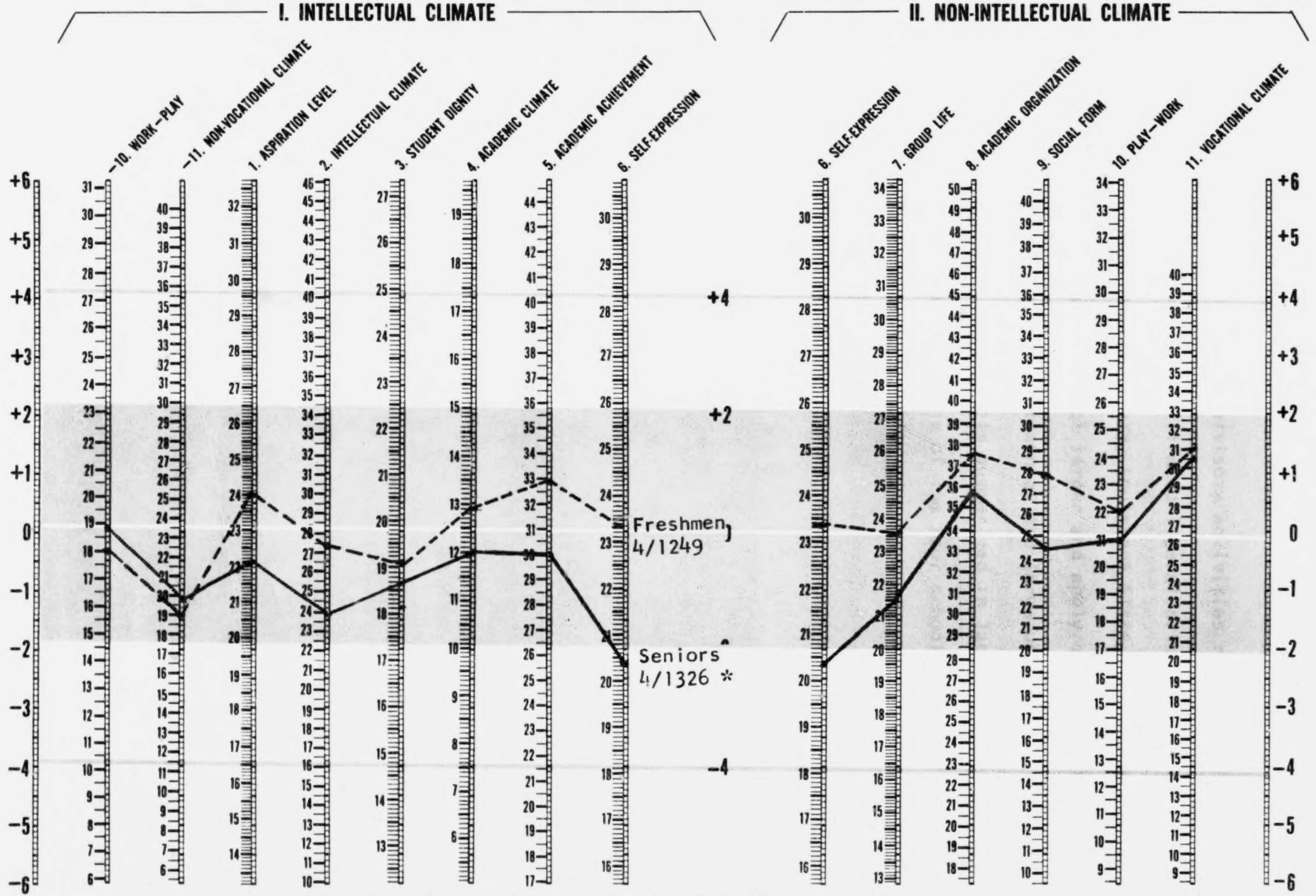
Fig. 46. Differences between freshman and senior environments at four university - affiliated colleges.

GROUP FACTOR SCORE PROFILE—COLLEGE ENVIRONMENT (CCI)

NORMS BASED UPON 1993 JUNIORS AND SENIORS ENROLLED IN 32 COLLEGES.

STANDARD SCORES ($\overline{X} = 0$, $\sigma = 2$)



* Number of Schools/Number of Students

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further reduction in already minimal supervisory activities represented in factors 7, 8, and 9. Four university-affiliated liberal arts colleges are represented in the figure following: Emory, Louisiana State, Purdue and St. Louis. These differences are somewhat larger and apply across the board, suggesting some broadly depressing phenomenon at the large university. The standard score means for these four schools summarized in Table 43 make it clear that this is not confined to any one of the four schools involved but is common to all of them.

Table 43

Intrainstutional Press Differences for Freshman
and Seniors at Four Universities

Factor	Emory		Louisiana State		Purdue		St. Louis		Pooled	
	Freshman	Seniors	Freshman	Seniors	Freshman	Seniors	Freshman	Seniors	Freshman	Seniors
	N=60	N=119	N=149	N=77	N=32	N=172	N=1008	N=958	N=1249	N=1326
1 Aspiration Level	1.50	-0.28	0.03	-0.95	0.64	0.22	0.46	-1.01	0.64	-0.52
2 Intellectual Climate	-0.31	-1.12	-0.61	-1.38	-0.15	-1.42	-0.11	-1.55	-0.28	-1.35
3 Student Dignity	-0.44	-1.00	0.19	0.35	-1.56	-1.56	-0.76	-1.32	-0.60	-0.84
4 Academic Climate	0.96	0.15	-0.83	-0.18	1.13	-0.02	0.23	-1.16	0.39	-0.26
5 Academic Achievement	1.93	-0.26	0.47	0.21	0.38	-0.13	0.56	-1.38	0.86	-0.39
6 Self-Expression	-1.18	-4.25	-1.73	-3.62	2.20	0.47	0.86	-1.73	0.08	-2.28
7 Group Life	-0.67	-2.06	-1.11	-2.34	1.44	0.72	0.16	-0.95	-0.06	-1.17
8 Academic Organization	2.21	1.30	-0.02	0.46	2.17	1.00	0.75	-0.09	1.30	0.67
9 Social Form	0.20	-0.42	-0.18	-2.14	2.81	1.47	1.08	-0.38	0.97	-0.38
10 Play-Work	-0.41	-0.03	-0.22	-1.91	1.43	1.57	0.49	-0.22	0.30	-0.12
1 Vocational Climate	1.63	0.70	0.80	1.46	2.26	2.19	1.00	0.93	1.43	1.13

Chapter VI

INTERRELATIONS BETWEEN NEED AND PRESS

The massive institutional data we have been reviewing for the past several chapters has provided us with an interesting distraction from our original purpose. We have been lingering along the driveway so to speak, diverted by the sight of the intricate structure looming up in the distance before us. The picture is still incomplete; there are too many details to be taken in by a few darting glances. But we have at least gotten some sense of the overall exterior design as we hurry on our way inside.

The metaphor is extravagant but all too appropriate; we are still on the outside looking in. We started out on a search for a way of relating personal needs to environmental press, in the hope that the technical means for discussing the congruence of these two systems would then permit us to make more precise statements about future behavior. The tools for describing each of the systems have been developed and found adequate, each to their own, but despite their source in a common conceptual scheme they still remain inaccessable to one another. The words are similar in both languages, and they seem to mean the same things, but as long as the comparisons remain verbal we can't be sure.

A review of the attempts that have been made to validate the Indexes will help us to see how far we have come, and where we still have to go--by way of preparation for the solution to be offered later in this chapter.

Some Remarks on Validity

The accuracy of a psychological appraisal of another person is commonly considered to have been established if there is agreement with other appraisals, either objective or judgmental, or if some form of consequent behavior occurs that was predicted by the appraiser. The former will be referred to as validation by equivalence, the latter by consequence.

Equivalent Validity

Operational equivalence should be restricted in principle to observations made under similar circumstances at approximately the same time. In practice any positive relationship with a nominally relevant variable is likely to be offered in evidence, even with criterion measures obtained prior to the current appraisal if it can be presumed that the earlier performance could not have influenced the later one. In this respect it is generally considered preferable for the investigator to be totally unaware of the identity of the performer on one, if not both, of the two occasions. In the case of group tests this is not likely to be a problem since the entire analysis may be processed blindly. Where observations are involved, however, maintaining the integrity of the investigator may be much more difficult. A classic example of such a methodological oversight occurred in the case of the California authoritarianism studies: interviews intended to corroborate F-scale scores were conducted by personnel not unaware of the subject's prior test performance and classification.

The intent of such safeguards is to rule out extraneous sources of equivalence between two sets of responses from the same subject. Even if the influence of a third variable can be eliminated, however, the resulting relationship is in itself still of limited significance if it has not been tied to some referent outside of this immediate method-bound verbal response context.

Consider, for example, a collection of thermometers of various shapes and materials. Intercorrelations of their readings may help to reveal those that are similar in sensitivity but we would still be unable to choose between several such subsets, or calibrate those that are covarying together within the same group but at different absolute values. A "valid" thermometer is one that is coordinated to an external process acceptable as a sample of "heat" and is relatively uninfluenced by other processes considered irrelevant such as humidity or atmospheric pressure. The physical standard is usually dictated by convenience and invariance. Early thermometers were calibrated to snow temperature and the summer sun, but the freezing and boiling points of water were quickly perceived to be more reliable, and conveniently accessable.

In the case of personality measurement there is no clear consensus regarding appropriate standards. Indeed, the current view conceals this ignorance of behavioral phenomena relevant to the test response by suggesting that all overt responses are in some measure a manifestation of personality and, therefore, the test response is itself worthy of study in its own right. This is a somewhat curious reversal of the situation in the physical sciences. Instead of having some antecedent idea of a specific psychological event (like "heat") for which to seek some more exact measurement, we have increasingly refined measurements for which we would like to find some relevant event. Our bits of paper change patterns on a seemingly non-random and highly reliable basis, but what state of affairs they signal has yet to be determined!

The difficulty lies not with the subjective aspects of behavioral observation but in the complexity of the interaction forms. "Time" is subjective, but a clock can be coordinated with the transit of the sun or the oscillation of a crystal. Thermometers similarly relate our sense of "temperature" to a scale coordinated with the transformation of water into a solid or a gas. What is needed are equally non-subjective referents for personality processes.

Analyzing the dimensions of test responses isolated from the thing-world in which behavior interactions take place, as Cattell (1964) urges, has some logic to it nevertheless. The variables emerging from such analyses help narrow the search for interactions most likely to lend themselves to codification. The factors yielded up by the Indexes and by the instruments most closely related to them suggest that attempts to formalize the observation and recording of interaction states may be more fruitful in some areas than in others. Boundaries have, at the least, been placed around the otherwise seemingly endless possibilities for describing ongoing behavioral episodes.

The categorization of gross behavior is in itself no less inferential than test interpretation. Observers not only have difficulty in agreeing on their appraisals of the actions of another person; they even find it difficult to decide how to determine what constitutes agreement or difference.

My own first experience with the ironies of conceptual equivalence occurred in the course of an assessment of graduate students in physics and theology. The men preparing for the ministry seemed to be exceptionally free in the acceptance of their own impulses. Behind their decorous public facade was another very different side. In the privacy of their rooms they taught a somewhat startled assessment staff roaring new versions of staid old hymns, and the twinkle in their eye the morning after was for a fellow conspirator who also appreciated the human joke. When they married they did so impulsively and gladly, and the less they understood their own behavior under the circumstances the more convinced they were of the genuineness of their feelings.

The physicists on the other hand seemed far more brilliant, driving, achievement-oriented students who alternately denied all and gave all. The intensely ascetic period of preparation for an exam, for example, was often followed by an orgiastic blast the next weekend, and lowered, avoidant eyes the Monday after in shame for having lost control.

When this group was described as relatively over-intellectualized and lacking in spontaneity, the late Enrico Fermi (whose students they were) objected. His students were as labile as anybody, he felt, and offered in evidence the current local joke. Everyone had been enormously amused by a student's detailed "credit-debit" analysis of a girl he was proposing to marry. Their capacity to enjoy a laugh at this obsessive colleague's expense seemed a clear enough refutation of my thesis, I thought, and my asking what they had all found so funny was more automatic than intentional. "His carelessness," Fermi shot back. It seemed that anyone might be expected to draw up such a list (engaged ministers take note), but only fools were so indiscreet as to leave them lying about forgetfully.

Another attempt at consensual validation failed when a coach refused to accept a description of one of the varsity as aggressive. AI's for most of the team had suggested them to be relatively docile passive giants whose hostility broke out only in the sanctioned limits of the stadium. The exception was one of a small minority whose test data suggested a barely controlled, continually seething anger. Not so for the coach, however, who considered him a reasonably typical red-blooded American boy. It was true that there had been some trouble downtown when he had reacted violently to a passerby who brushed against him in the street, and the coach also recalled that he was unnecessarily brutal in practice scrimmage with the scrubs, and had once punched out the window panes in his room one by one with his bare hands. But he always settled down after coach--a six foot six, 260 pound former lineman himself--had a man-to-man talk with him in the locker room. Aggressiveness obviously depends on your point of view, and there isn't much that looks like it from high above all that muscle.

It is perhaps because of these kinds of difficulties that the exploration of equivalence via agreement with the judgment of others has been neglected in recent years. There are good designs in this area, however, such as those developed by Vernon years ago in the study of styles of personal expression. Do subjects recognize their own protocol when presented to them among a group of five or six others? What kinds of differences tend to improve their chances of making the discrimination? Reduce them? Are therapists, supervisors or colleagues able to match test-derived descriptions against name rosters of subjects known to them with better than chance accuracy? Another, more complex procedure might involve the classification of each member of a large group of subjects known to one another--an academic department, factory crew, military unity, club group, etc.--on the basis of similarities in test profile, followed by the presentation of the resulting lists of names to each group member with the request to give his reasons for considering each subset homogeneous.

Scanlon (1958) explored the latter design with a class of medical students. AI profiles of 76 subjects were classified by vector summaries in ten subgroups and compared with student ratings of personality characteristics of classmates assigned to each group. Differences between vector subgroup ratings were significant beyond the .001 level, and significant positive correlations were obtained between rating and vector angle (see Chapter XVI).

A related effort by Mueller (1962a) produced more equivocal results, however. Eleven subjects with maximally distinctive AI summary vectors were selected from a population of 50 certified secondary school counselors. Judges' efforts to predict the counselor's AI responses on the basis of tapes of their interviews with clients were successful, but accounted for by only six scales: Understanding, Science, Energy, Aggression, Harm Avoidance and Fantasied Achievement. Furthermore, the judges varied considerably in their relative accuracy among each of these individual variables. Subsequently it was found that insightful judges were the most accurate and insightful subjects were the easiest to predict, where insight refers to the relationship between the respondent's AI scores and his own estimate of his scores. (Mueller, 1962b).

On the other hand, a double-blind analysis and identification of AI protocols from six parents of children under therapy in the Onondaga County Child Guidance Center was attempted successfully in an unpublished pilot study by Stern, Ross and Braen. All six blind analyses were positively matched with their sources by the attending psychiatrist, who also noted parallels between our assessment of the same-sex parent and his own appraisals of the child in treatment.

Other informal blind analyses of psychotherapy patients, problem students, and industrial personnel have also been recognized and confirmed by psychiatrists in the first two cases and management supervisors in the third, but no definitive studies have been made with such a procedure as yet.

Consequent Validity

The two anecdotes of the physicist and the football player were really offered not so much for comic relief as for what they teach us about consequent validation. The new behavior we had just learned about in each case--the physicist's wedding list, the ballplayer's violence-- was not known at the time of the assessment, but it appeared to be immediately reconcilable with our own test-based knowledge. The temporal relationship between assessment and behavior is of no significance here; what matters is that the behavioral event was unknown at the time of the assessment but it seemed to follow logically as a consequence of the personality characteristics suggested by that analysis, or was at least not inconsistent with it. This recognition of presumed consequence is what Dilthey referred to as a verstehen.

Our assessment of another individual suggests how he is likely to behave, but not where or when. There are too many different things a hostile ballplayer might do, depending on the opportunities that present themselves to him that are beyond his or our control. The difficulty of anticipating any particular one of these myriad alternatives leads us to frame our expectations in very general terms. But since the events themselves can usually be turned to fit such broadly-stated predictions by anyone clever enough to be earning a living as a psychologist in the first place, it behooves all of us to be properly sceptical of such proofs.

To be sceptical is not the same as being negative, however. The new information obtained about the athlete was consistent with what we already knew, moreso than if we had learned only that he was an avid rifleman and hunter, and decidedly more consistent than the information that his hobby was making color close-ups of flowers and he ran a photography club for young children in a neighborhood settlement house in his spare time. As Weber pointed out long ago, some outcomes are more relevant than others. Our understanding of an event can be said to rest on the one hand upon "... knowledge of certain 'facts', ('ontological' knowledge), 'belonging' to the 'historical situation' and ascertainable on the basis of certain sources,"and on the other hand "... knowledge of certain known empirical rules, particularly those relating to the ways in which human beings are prone to react under given situations ('nomological knowledge')"(Weber, 1949, p. 174).

Weber's use of nomothetic "laws of the mind" to serve as the links of the hypothetical causal chain tying an event-outcome to an event-origin derives from Windelband, and has the same significance given it more recently by Cronbach and Meehl (1955). The causal analysis of personal actions is seen to involve the construction of judgments of possible consequences by means of deductions derived from psychological "theory". Weber's example is homely, but instructive:

> Let us assume a temperamental young mother who is tired of certain misdeeds of her little child, and as a good German who does not pay homage to the theory contained in Busch's fine lines, "Superficial is the rod--only the mind's power penetrates the soul," gives it a solid cuff.... [and] let us assume that the howls of the child release in the paterfamilias, who, as a German, is convinced of his superior understanding of everything, including the rearing of children, the need to remonstrate with "her" on "teleological" grounds. Then "she" will, for example, expound the thought and offer it as an excuse that if at that moment she had not been, let us assume, "agitated" by a quarrel with the cook, that the aforementioned disciplinary procedure would not have been used at all or would not have been applied "in that way"; she will be inclined to admit to him: "he really knows that she is not ordinarily in that state." She refers him thereby to his "empirical knowledge" regarding her "usual motives", which in the vast majority of all the generally possible constellations would have led to another, less irrational effect. She claims, in other words, that the blow which she delivered was an "accidental" and not an "adequately" caused reaction to the behavior of her child ... (1949, pp. 178-179).

There is, unfortunately, no genuine nomological theory that allows us to move confidently from one psychological point to another, from a "usual motive" to a "customary effect". We have no empirical knowledge comparable to that of the 18th century chemist, by means of which he could say that certain forms of corroded iron placed in a powerful liquor known as aqua regia produced the odor of very bad eggs. Nor do we have fundamental principles from which to derive logical consequences with the confidence of the mathematician or physical scientist.

But the methodology is nevertheless applicable. We are able to identify the more obvious drive states of living organisms and the actions normally associated with them--hunger, thirst, sex, sleep, etc. The readiness states, the biases in favor of some forms of interaction rather than others, that are of interest to the personologist are in need of similar identification and generalization. The present group of converging personality dimensions suggest themselves as the elements for such an empirical analysis, to be related systematically to a wide variety of behavioral states for the purpose of developing the psychological calculus of probability that Weber had in mind.

The program is a long one. Some of the present dimensions are undoubtedly artifacts and the best of them are no doubt crudely measured. But if we are on the right track, a corpus of nomological knowledge will gradually develop material that could be said in retrospect to have validated the present tests. By the time this occurs (if it does) their validation will be of little significance, however. They will have precisely the same importance as one of Fahrenheit's early glass tubes.

Embarking on this program involves three basic approaches:

Class Membership. The most venerable of the procedures for consequent validation entails the capability of the instrument for discriminating between subjects classified in groups on the basis of some discreet,predetermined external criterion such as occupation, avocation, major field, etc. The assumption here is that butchers and bakers must be different kinds of people, and a good assessment device will reveal differences between them that will not seem inconsistent with the bloodletting of the former or the dough-kneading of the latter.

The test is not a critical one, unfortunately, since personality characteristics associated with such social roles are neither necessary nor sufficient conditions for admission, performance, or tenure in them.As the wife of a young urologist once told me, when I asked her in heavy confidentiality at a cocktail party just how her husband had come to elect his specialty, "Why, he'd had an offer to join some older friends with an established group practice after his training was completed. The opportunity was too good, the risks too slight, and the friends and their community too nice to pass up. They suggested he take a residency in the field." Her tone as she told me this seemed to imply that I was both naive and dirty-minded, a common misconception of the curiosity and lack of self-deception that happen to characterize psychologists.

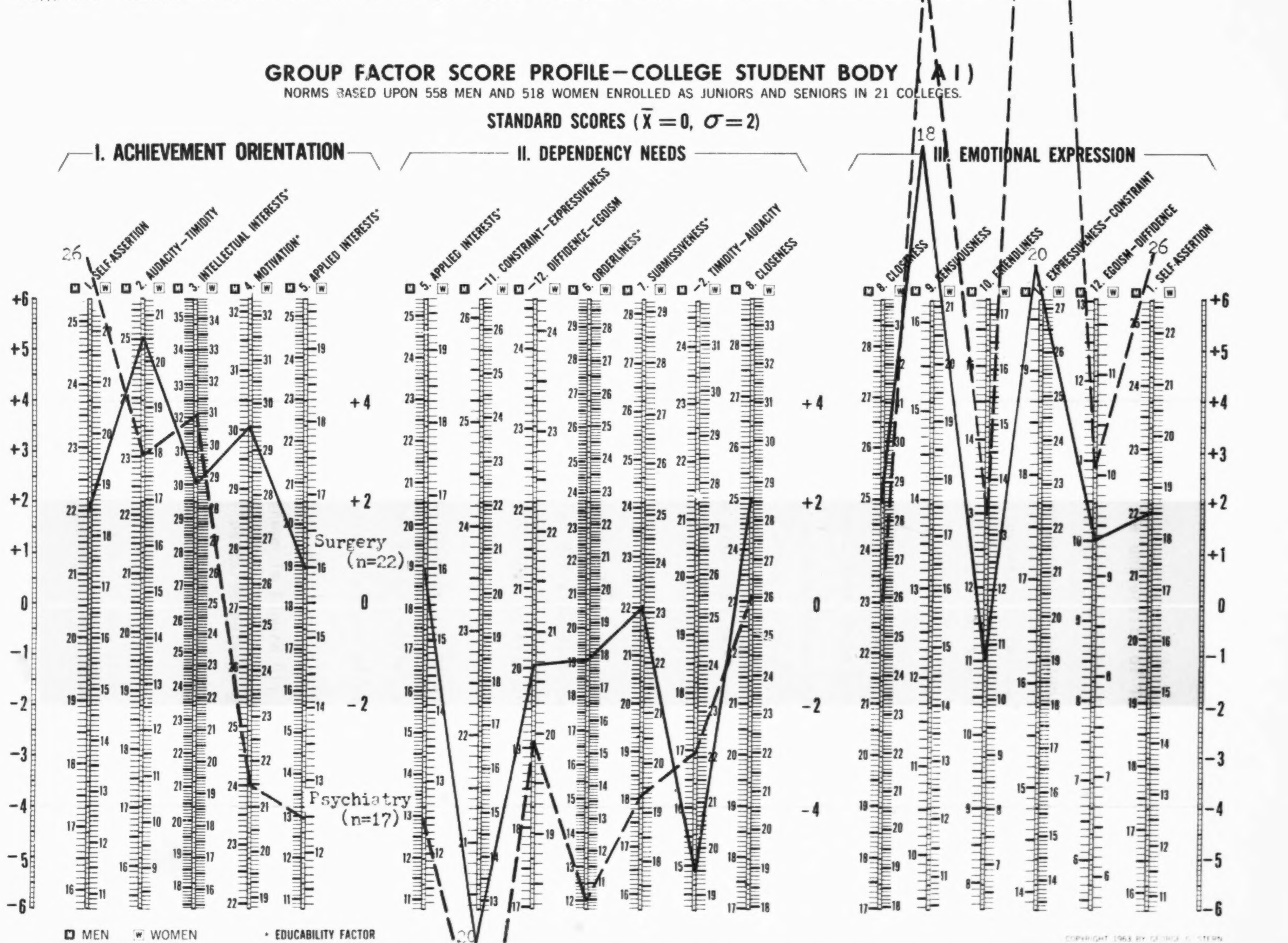
Fantasy undoubtedly does play some role in the choice of a career (cf. Kubie, 1953), but practical considerations are not the only source of unpredictability in relating personality data to group membership. The characteristics of incumbents may differ from those of recruits to the extent that the latter have not yet been exposed to the modulating influences of experience in the field. There is a distinction to be made between qualities that are a consequence of participation in a career and those which predispose an individual towards choosing it in the first place. The voice and bearing of the successful teacher are perhaps less striking stigmata than the lung tissue of the coal miner or house painter, the hands of the tailor, or the stoop of the shoemaker, but they are nonetheless a reflection of experience in the occupation rather than an indication of readiness for it.

Furthermore, within a given field, there are often opportunities for very different kinds of performances, allowing for varieties of motivation perhaps comparable in diversity to those between different fields. Pedantry, for example, is not peculiar to a professorship; obsessives in medicine, library work, law enforcement, etc., etc., can make their own opportunities for self-actualization.

Despite these limitations, discrimination between vocational specialities by means of noncognitive measures is possible, as the oldest and best-established of objective psychological tests after the measures of intelligence--the Strong Vocational Interest Blank--has clearly demonstrated. A very early unpublished AI study by Lane (1953) at the University of Chicago Examiners Office throws further light on this. Items from the Strong were coded by needs categories and the keys for lawyer, minister, and teacher were then translated into needs patterns. The resulting configurations were found to be quite similar to those obtained from the AI for samples of individuals from the same professions. The representation of needs on the Strong is heavily biased, however, with 117 of its 400 items restricted to practicalness and eight other needs represented by five items or less.

A number of studies since then have shown differences between various occupational and preprofessional groups. Stern and Scanlon (1958) compared faculty, practitioners and students in five medical specialties (obstetrics-gynecology, psychiatry, surgery, internal medicine, pediatrics) and found the faculty similar to one another regardless of field. There were significant differences, however, between practitioners in the specialty groups, paralled by differences between students who were opting for each field. Funkenstein (1960) found that Harvard Medical School entrants oriented towards service as practitioners were more outgoing and expansive than research-oriented entrants, but less aggressive and non-conforming than those who were psychiatrically-oriented. Students choosing surgery appeared to be more conforming, achievement-oriented and orderly than those choosing psychiatry, whereas the latter were higher in expressiveness and in introspective interests (Wolarsky, King and Funkenstein, 1964). Figure 60 shows these differences expressed in terms of factor scores.

Fig. 60. Senior medical students choosing surgery or psychiatry as first-choice residency specialties.



Studies of nurses[*] have been made at the University of Texas (Richards & White, 1960; Moore, White & Willman, 1961), Syracuse University, Presbyterian-St. Luke's in Chicago (Mauksch, 1958) and Beth Israel in Boston. They appear to be more submissive and controlled, less intellectually-oriented, than college women generally. Similar findings have been reported for teachers (Donoian, 1963; Gillis, 1962, 1964; Haring, 1956; Haring, Stern & Cruickshank, 1958; Klohr, Mooney, Nisonger, Pepinsky & Peters, 1959; Merwin & DiVesta, 1959; Steinhoff, 1965). Counselors, on the other hand, seem to be more like psychiatric trainees in being less orderly, deliberative, achievement-oriented or dependent (Mueller, 1962c; Tuttle, 1966).

Distinctive personality patterns have also been reported for students and professionals in chemistry, physics, medicine, teaching, theology, and the military by Siegelman (1957), Siegelman and Peck (1960), Stern (1954), Stern, Scanlon and Hunter (1962),Stern, Stein and Bloom (1956), and Tatham, Stellwagen and Stern (1957). Some further data bearing on differences between occupational groups and levels of experience will be found in Chapter XVI.

Differences between students in various majors and/or types of institutions have been presented throughout this volume, of course, and have been found even at the time of admission. Harvard freshmen for example differ significantly on the basis of elected majors, but the most important source of variation among them is a function of their backgrounds (Stern, 1960c). Profiles for public and private preparatory school students are shown in Figure 61. Cosby (1962) on the other hand, found no differences in AI patterns between girls belonging to 15 different sororities despite the fact that the houses themselves were distinguished by very marked stereotypes.

Other group differences have been reported for athletes (Naugle, Stern

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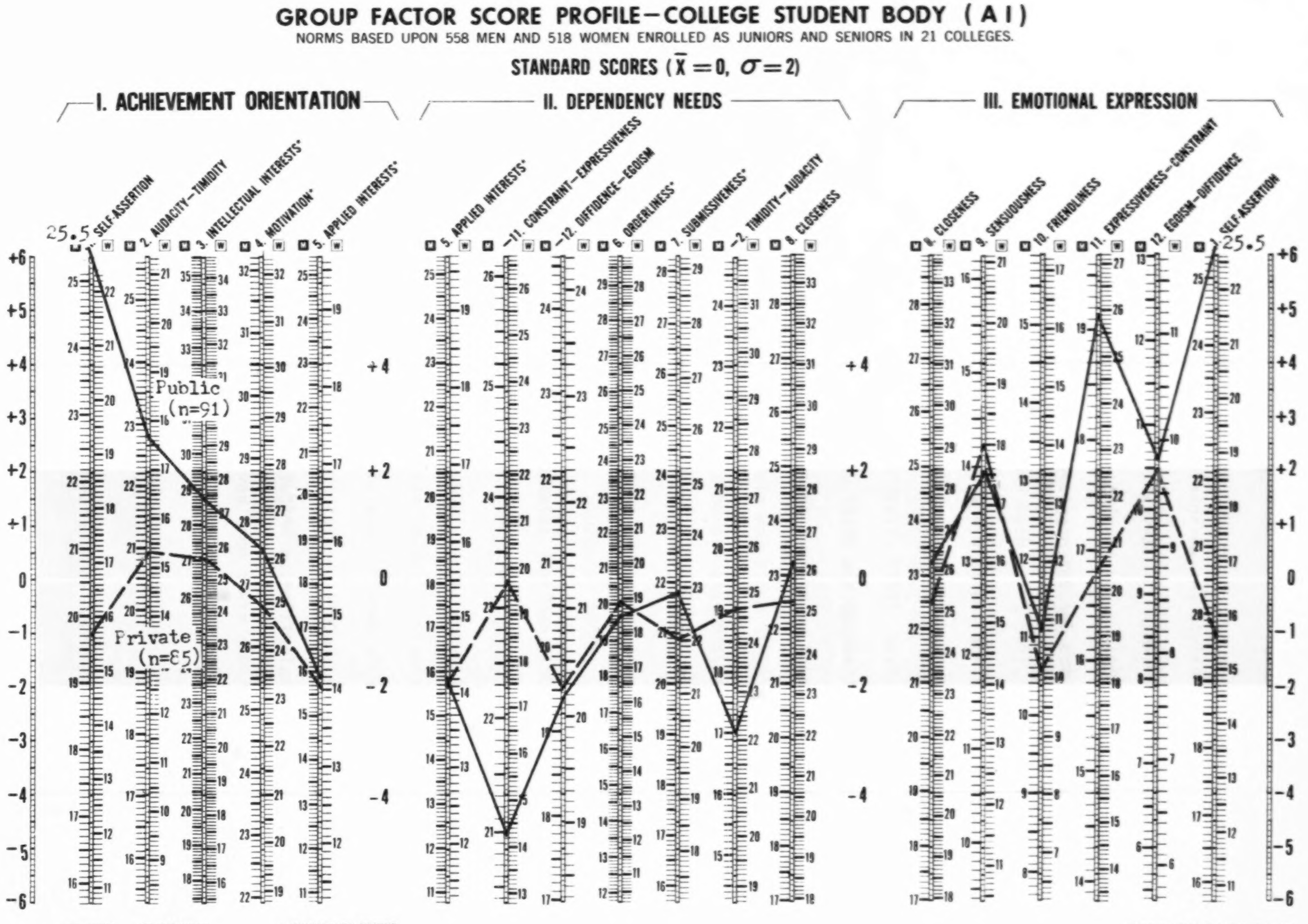
[*] See Anderson (1961) for a CCI study of nursing school environments.

Fig. 61. Harvard freshmen from public or private school backgrounds.



and Eschenfelder, 1956; Riddle, 1966), decision-making styles (Dyer & Stern, 1957; Grady, 1964), chronic aborters (Cole, 1958), symptom types (Richman, 1966), and Armenian-American ethnicity levels (Kernaklian, 1966).

School drop-outs and delinquents have been the subject of studies by Chilman (1959), Stern , Diamond, Lissitz, Mallov, and Roth (1966), McLaughlin (1966), Rowe (1963), Scoresby (1962), Stern (1958b), and Williams and Stern (1957). Significant relationships with reading improvement have been reported by Briggs (1958) and Glass (1957), engineering grades (Lett, 1955), performance in classes in economics (Lovenstein, Pepinsky & Peters, 1959) and counselling (Mueller, 1962c), and general academic achievement or grade point average by McLaughlin (1966), Ralston (1961), Stern (1954), and Stern, Stein and Bloom (1956).

Other academic studies have involved honors students(Capretta, Jones, Siegel & Siegel, 1963; Stern, 1965d, Stern & Ashley, 1966), independent study (Froe, 1962; Griffin, 1964), creative thinking (Torrance, Baker, DeYoung, Ghei & Kincannon, 1958; Torrance, De Young, Ghei & Michie, 1958), campus political leaders (Dubey, 1964), and married undergraduates (Chilman, 1961; Chilman & Meyer, 1963).

Relationships between AI scores and conformity have been investigated by DiVesta (1958), DiVesta & Cox (1960), and King, Bidwell, Finnie and Scarr (1961). Authoritarianism has been measured by AI subscales in several studies (Donovan, Naugle, Ager & Stern, 1957; Gladstein, 1957; Stern, 1960a, 1962a; Stern & Cope, 1956; Stern, Stein & Bloom, 1956; Tapp, 1963). An authoritarianism scoring key will be found in Appendix C, based on items derived from these several studies.

Appendix G contains normative scores for some of the other specialized groups referred to in this section.

Deductive Studies. The research cited above covers a lot of ground substantively, but is otherwise cut from the same methodological cloth. With few exceptions these studies involve simple comparisons of two or more groups selected because the differences between them would be of some interest. Although the diversity of applications and findings tend to increase our confidence in the instruments and, reflexively, in the findings themselves, these are nevertheless relatively low-level demonstrations of validity, comparable in their way to Fahrenheit's earliest observations of consistent differences in thermometer readings for very cold water and water that was tepid. The differences between groups seem appropriate enough, but we don't know how much of the findings to attribute to the ostensible subject classification, how much to other unsuspected bases on which the groups might differ, how much to possible test artifacts, and how much to the assessor himself.

A more direct approach starts from the test scores themselves, predicting the relationship of specified scores or patterns to other forms of consequent behavior on the assumption that the test does measure what it is supposed to be measuring. Both approaches assume the validity of the test until proven otherwise, but the one previously described begins with known differences in behavior and asks if the test is sensitive enough to pick up differences of its own that are not inconsistent with the assessor's expectations, while the approach now to be considered demands of the assessor that he specify in advance the behavioral consequences likely to be associated with given scores. The second type of exercise is the more convincing to us, just as we are more impressed by the fact that water generally does freeze as predicted when the ambient temperature goes below 32° and never above thatpoint, than we are by a number of samples of frozen water each of which gave a value of 32°. The reason for this perhaps is that there are more alternative explanations to account for the thermometer remaining at 32° under these circumstances, and therefore greater remaining ambiguity, than there is in the case of the verification of a predicted outcome.

The simplest form that the hypothetico-deductive method can take is one in which the inferences are implicit rather than formal. Such is the case when scores are used to identify subjects whose subsequent behaviors are then observed in the hope that something distinctive will be seen that will lend itself to an *ex post facto* interpretation. Studies by Masling and Stern (1966) and by Myers (1962, 1963a, 1963b) offer examples of this, involving relationships between teacher characteristics and classroom effectiveness. The first of these investigated a small number of teachers from a very large population on the basis of test scores suggesting distinctive motivational patterns, finding that pupils of teachers high in AI scales suggesting that they provided a press for their pupils similar to CCI Aspiration Level obtained higher scores on standardized achievement tests even with intelligence controlled. Myers inverted the design, studying the relationship of student personality factors to differences in their perceptions of the same teacher and their responsiveness to him.

A more complex causal chain was followed by Wassertheil (1955), whose analysis of AI scores for subjects classified as negatives or positives on the basis of their TAT protocols led to the generation of hypotheses regarding new areas of response differences confirmed in a subsequent blind analysis. DiVesta and Merwin (1960) investigated relationships between need strength, perceived instrumentality and attitude change, working with four modified AI scales. A recent study by Mueller (1966) related factor characteristics (dependency, expressiveness, etc.) to the projection of potency and activity level traits onto parents. The use of the AI in developing an analytic assessment model for predicting the academic careers of a group of engineering students was described by Brodkey, Eichen, Morris, Mallett, Pepinsky, Peters, Correll and Smith (1959).

Several studies of teachers in workshop groups have suggested the value of the AI for small group process studies (Donoian, 1963; Haring, 1956; Haring, Stern & Cruickshank, 1958). Jackson, Messick and Solley (1957) found AI loadings associated with interpersonal interaction factors based on perceived distance within a group of fraternity members. The most interesting of these closed or limited interaction studies was conducted by Peters and Correll (1959). They made predictions of conflict within 3-5 person youth groups living abroad for six months on the basis of AI profiles obtained before departure. These were confirmed for the groups of one year but not for those of the next, the difficulties being attributed in part to uncontrolled external variables.

Need-Press Interaction. These studies imply a relationship between person and environment to be taken into account in the prediction of behavior, but lack formal conceptualization of the environmental system. A series of analyses by Thistlethwaite were the first to show the influence of the academic environment as measured by the CCI on student motivation and achievement (see Chapter XV). Creamer (1965) tried to relate the congruence between an individual's perception of the college environment and that of an "impartial board" of non-participants to the individual's level of involvement in campus activities. Neither of these investigators took the student's personality characteristics into account, and the latter of the two was further handicapped by an inappropriate reliance on rho as a measure of profile similarity following a procedure introduced erroneously by Pace (see Chapter XV).

Bergquist (1961) administered both the AI and CCI to 102 New Trier High School graduates in college and found that need-press congruence for each student was positively associated with his satisfaction with college. Froe (1962) on the other hand found that students whose need patterns most closely agreed with the prevailing press of the college were least likely to work up to their abilities, due presumably to the fact that "...there seemed to be no dominant press for academic pursuits in this particular college culture" (p. 135).

Neither of these studies were able to satisfactorily resolve the technical problems involved in relating needs to press systematically for each individual. Qualitative inferences were made easily enough, as the case study that follows demonstrates, but the two sets of measures would not be reconciled with one another on a simple one-to-one basis despite the common conceptual base for both instruments. As had already been seen in an analysis of the matrix of AI x CCI correlations across school means (Stern, 1962b), AI scales interpreted against CCI scores gave press conditions to which specific needs were relevant and CCI scales interpreted against the AI as background indicated student characteristics associated with specific press conditions, but in neither case did the relationships involve simple scale-for-scale correspondence of variables of the same name on both instruments. The original problem of dimensional congruence still remained unsolved.

A Student Case Study

Some further insight into the workings of the Indexes can be obtained from an analysis of a single case. The student is one of several undergraduate men and women selected by the staff of the student deans' offices as subjects for an exploratory study in profile recognition. They were chosen because they had been in some serious difficulty at one time, were well-known to the student personnel workers, and had responded to both the AI and the CCI ("expectations") at the time of their admission to college. The tests were scored and interpreted blindly, by research trainees in psychology having no connection with the personnel dean's office and who, as it turned out, had no acquaintance with any of the subjects either. The resulting descriptions were then submitted without identification to the student personnel staff for their recognition, as a test of the capacity of the instruments to yield data from which discriminable personality descriptions could be made.

Four cases were worked up in this way, two men and two women, as a preliminary procedural test and all four unnamed descriptions were identified without hesitation by the personnel staff. Nothing more was done with this technique, although the original intention was to extend this to a much longer list of perhaps twenty cases to be matched simultaneously. "Gail Kristus," as we shall call her here, was one of these four.

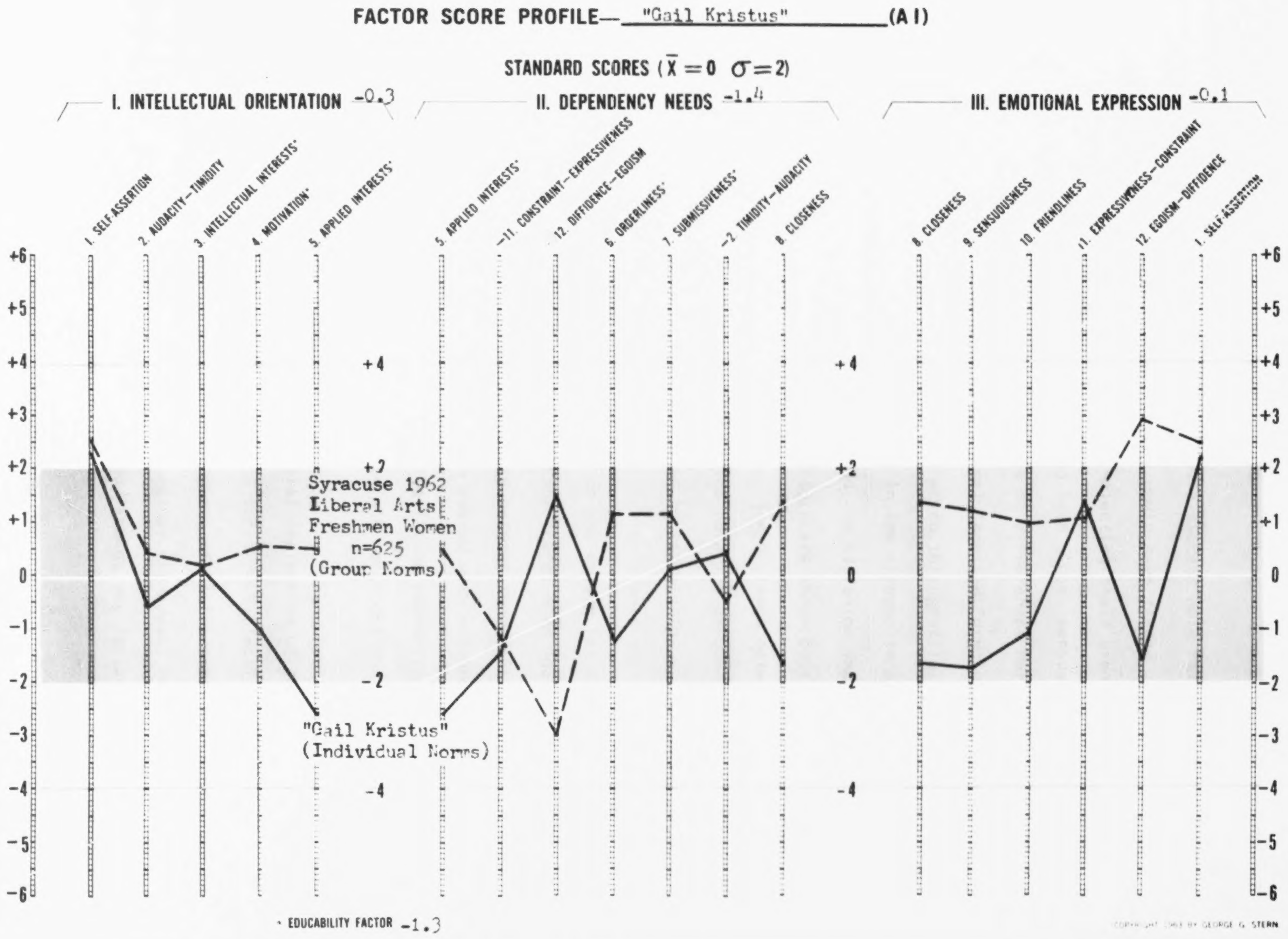
The assessors knew that this particular subject was a girl, with verbal aptitudes that put her in the top six to eight per cent of the college population. She was substantially lower however in reading speed (75th percentile) and mathematical facility (77th percantile). They also knew that she had been selected, like the others, because there had been some problem serious enough to have brought her to the attention of the Dean of Women's Office, but they had no idea what it was or how really serious it had been.

Test Scores

Gail's AI factor scores are summarized in Figure 62. The dotted line in this figure represents women in an incoming class close to her own, expressed in deviation units from the mean of other student body (institutional) means. The class as a whole is not unlike the university women as we found them earlier, somewhat average in all areas but the third. The pattern is somewhat exaggerated here, however, with these girls being substantially more egoistic and assertive than university women generally, Factors 12 and 1 also accounting for the only extreme scores in the other areas of the profile.

Gail's scores are given in units that are deviations from the means of all individuals, thus keeping her standard scores comparable with those of the class as a whole; had the institutional norms with their small standard deviations

Fig. 62. Gail Kristus: AI Factor Profile.



been used here (as if Gail were another whole student body rather than a single individual), the resulting standard scores would have tended to run off the chart. She appears most unlike her classmates in rejecting their preoccupation with appearance and dress (egoism), and in being less close, sensual or friendly than they. Area III then is an important source of differences here for this girl, although she is also indifferent to practical, applied forms of achievement.

Figure 63 shows the scale scores on which this profile is based, but the detailed picture emerges much more clearly in the circumplex profile of Figure 64. This figure has been constructed around the **AI** factor vectors of Figure 6, page 82. The actual locations of these vectors are shown by the small x's located around the perimeter of the circle. The distance between vectors has been bisected, providing an area equivalent to the relative uniqueness of each factor and within which the scales could themselves be represented in segments of equal size. By way of example, the x below Audacity represents the location of the vector for Factor 2. The distance from it to the vector for Factors 1 and 3 has been taken for the total area for the four scales with loadings on Audacity-Timidity, and it has been divided up equally between them. Since two of these--Fantasied Achievement and Science--are each shared with neighboring Factors 1 and 3 respectively they are shown overlapping the factor boundaries; Factor 12 on the contrary shares no scales with its immediate neighbors and its boundaries mark it off completely from them.

Figure 64 somewhat modifies our initial impression of a highly-constricted nonachiever. Gail has an exceptionally high score in Reflectiveness which, coupled with high scores in Sensuousness, Exhibitionism, Impulsiveness and Emotionality on the opposite side of the circle suggests a rather flamboyant "arty" type. The marked rejection of Narcissism, Sex, Play and Energy may reflect a physical

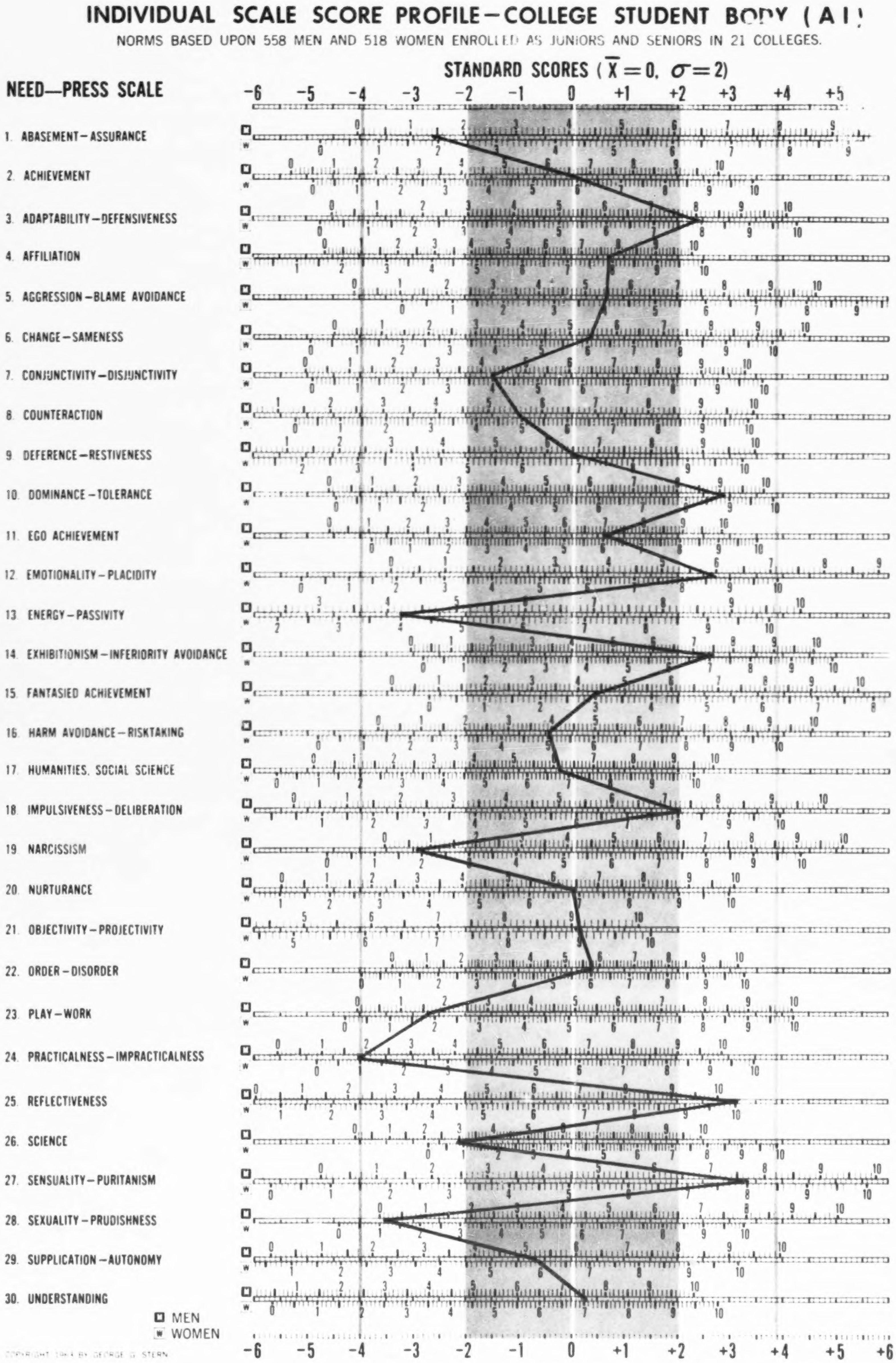


Fig. 63. Gail Kristus: AI Scale Profile.

ACTIVITIES INDEX
DIAGNOSTIC SUMMARY
FORM 1158

NAME Gail Kristus **CODE**

DATE

Verbal 92%ile	Vacabulary 94%ile
Math 77%ile	Reading Speed 75%ile

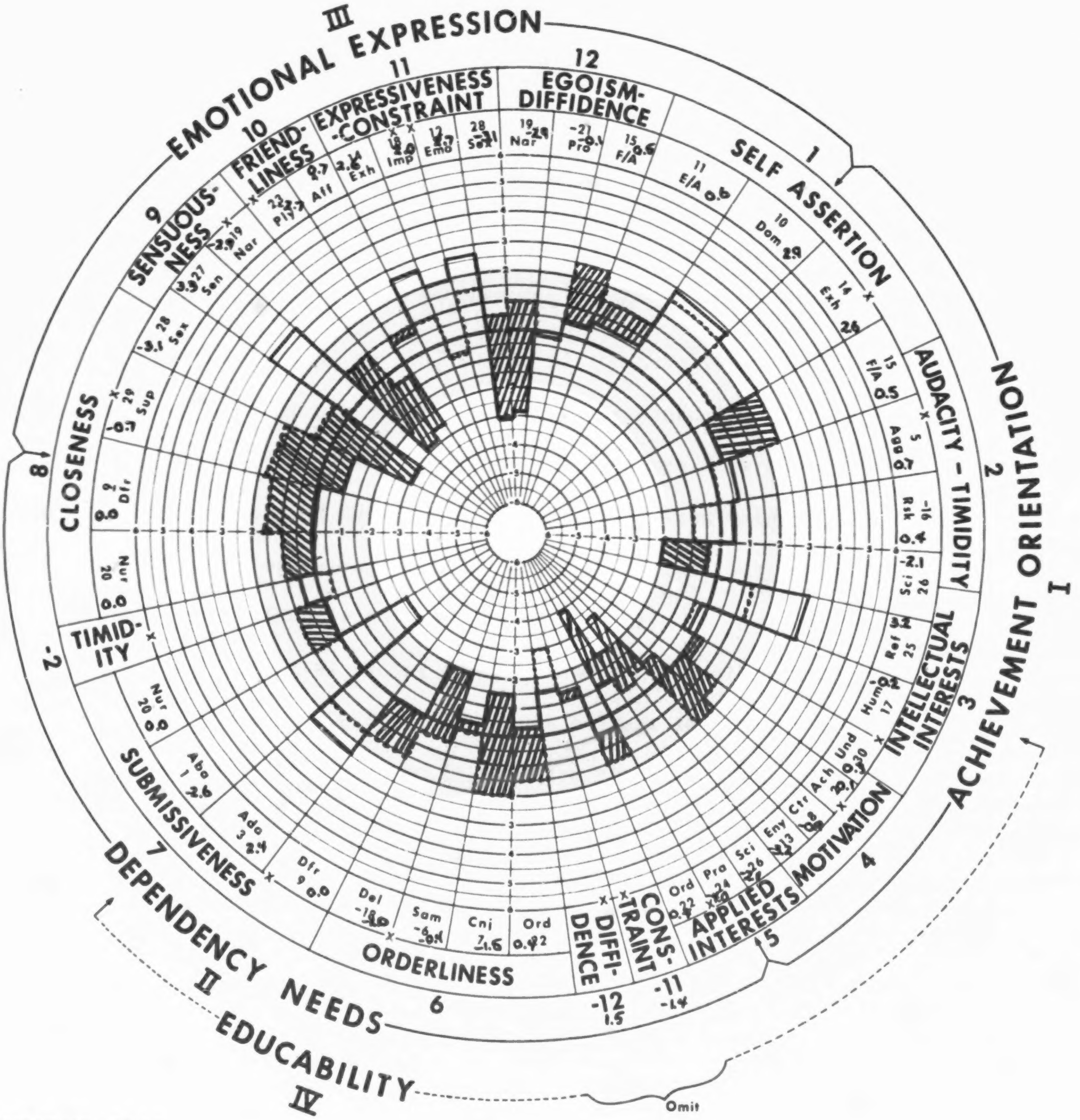


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Fig. 64. Gail Kristus: AI Circumflex Profile.

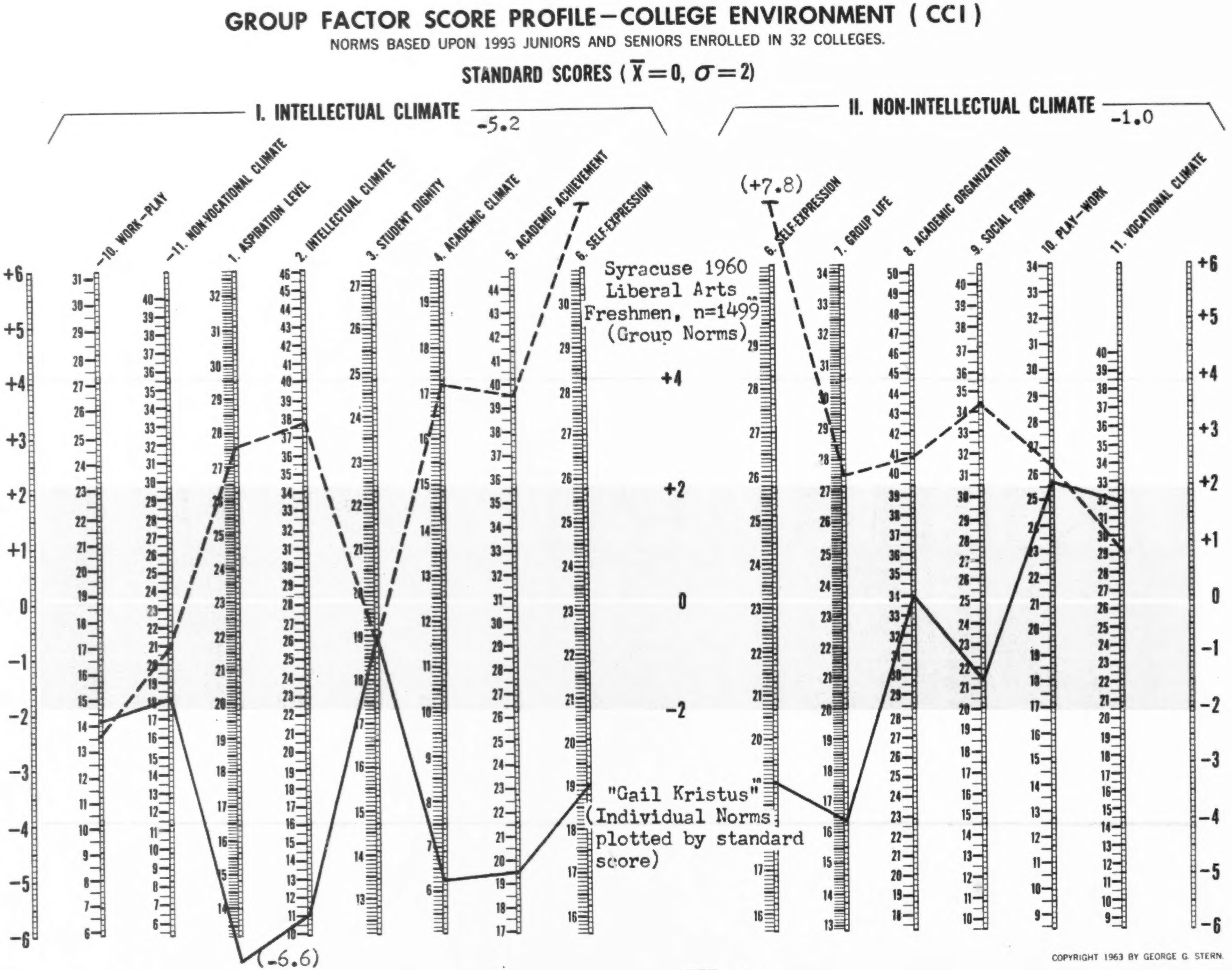
handicap (or some other source of lowered self-esteem) as a result of which she maintains a guarded, distant attitude towards her peers. Her very low scores concerning areas of tangible functions--science, academic achievement (Factor 4) and applied interests (Factor 5)--further suggest the existence of some vicarious emotional outlet of a nonutilitarian character. Given the high verbal facility indicated by her aptitude test scores it would seem likely that this girl is a writer, quite possibly of poetry.

The other item of interest in this profile concerns the opposition of components from Factors 1 and 7. She tends on the one hand to be a dominating, exhibitionistic person, but is at the same time likely to seek out group settings in which she may be criticized or found inadequate (adaptability).

A new dimension is added to this picture from Figure 65 and 66. Although the expectations of Gail's classmates reflect the familiar freshman myth, she herself takes an extraordinarily dim view of the institution she is about to enter. She evidently believes it to be lacking in any of the qualities of an academic institution except for Play and Vocationalism and, knowing her own feelings about such activities, it is evident that these are not regarded as institutional virtues. She is not more realistic than her classmates then but simply more negative, as can also be seen by comparing her profile with that of the upperclassmen at Syracuse presented earlier (Figure 36, page 197).

In summary, it seems likely that this is an offbeat creative girl, bitterly resentful over her presence at Syracuse and highly critical of the school and her fellow students, whom she sees as philistines with no interests other than in having a good time and learning something practical. She is adaptive, however, and might respond favorably to people with interests similar to her own, particularly in view of the fact that the institution is in fact

Fig. 65. "Gail Kristus": CCI expectations.



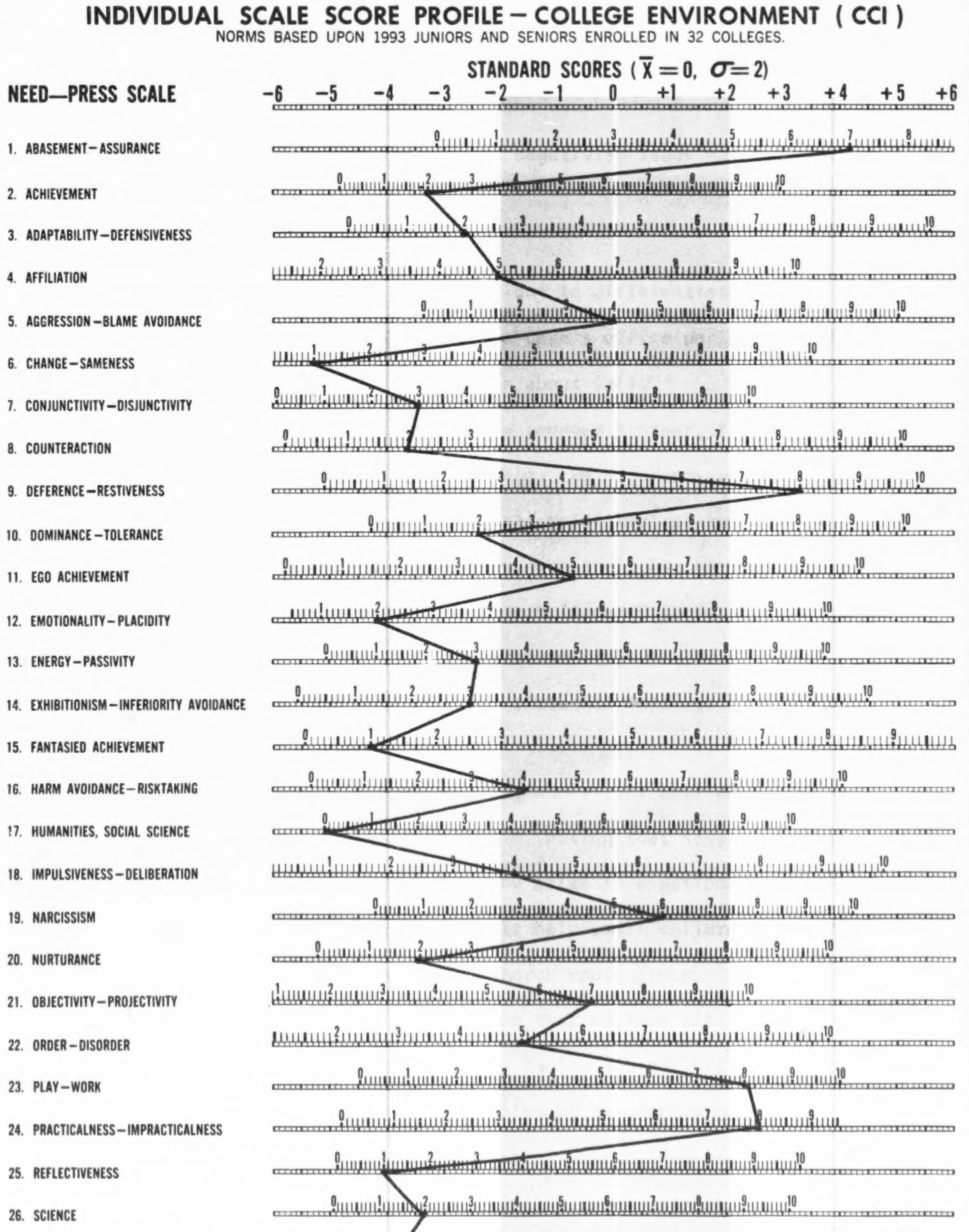


Fig. 66. Gail Kristus: CCI profile

by no means as poverty-stricken as her present negativism leads her to believe.

Life History[1]

The material presented above was sufficient to differentiate Gail from the other three case summaries presented to the Dean's office personnel. They in turn then provided the following information about Gail.

She was one of two children, the other a younger brother, from a well-to-do Greek family living in a small city in Ohio. Both parents were born in this country and have lived in Smithville for the major part of their lives. The Kristus family is well-established socially, own their own home in a prestige suburb of the city, and are active in their church (Greek Orthodox). Mr. Kristus owns a successful business. He is a college graduate, but Mrs. Kristus has not had any college work nor has she been employed since her marriage. Her only activities are homemaking and volunteer work.

In the autobiography required by University Admissions Gail discussed her interest in creative writing at great length, noting that several of her poems had been published and one received second prize in a national competition. But she wants to be a child guidance worker, "to help small children," and has been active in 4H, a settlement house, and a church youth group. She expresses her concerns about religion, and her expectation that college will help to resolve her present uncertainties. She is, she feels, too subjective in her thinking but is eager to learn. She says nothing of her family or home.

Her parents on the other hand say much about Gail. They are concerned about her lack of friends and her meager social life, feeling that she has isolated herself from normal peer group activities. They attribute this to her reluctance to wear glasses because she thinks that other children laugh at her appearance. She tried to get by in gym without them during junior high school, but succeeded only in making a fool of herself because of her seeming clumsiness. Since that time she began associating with some writers in the adult community, and had less and less to do with her peers. The Kristus' hoped that Syracuse would help to reverse this increasing isolation from friends her own age.

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[1] The material in this section is based on a summary by Dr. Betty Cosby, then Assistant Dean of Women. Salient identifying features have been disguised.

Gail herself was not unfriendly when she first arrived. Although critical of the college and unhappy because she had not been accepted at Radcliffe,the dormitory counselor found her a pleasant and attractive girl who got acquainted quickly with the girls on her floor and seemed, initially, very fond of her roommate. She was apparently excited over beginning classwork and was thought to have gotten off to a good academic start.

In mid-October her roommate became disturbed by Gail's talk of the creative "miracles inside her" and asked the head resident for help in arranging a change. In a following conversation with the head resident, Gail was extremely critical of Syracuse's academic challenge and of the academic ability of her peers. She discussed her interest in creative writing and showed the Head Resident some of her poetry. She also asked, surprisingly, if psychiatric help was available at the University but seemed to lose interest when the infirmary mental health service was described. It was later learned that she had visited a physician at the infirmary twice, but then stopped on her own initiative.

At 2 a.m. one November morning, while visiting friends on another floor, Gail began talking wildly about the "greatness inside her" and told her friends that she would have to commit murder or suicide to release it. She told them she was afraid that she was insane, proving it to them by deliberately burning her arm with a cigarette.

In a subsequent conversation with the head resident Gail explained her behavior as a deliberate attempt to shock her friends. She felt that they were concerned over such trivial things and needed to be awakened. Again she expressed her contempt for the Syracuse academic program in all areas but English. She had found two faculty members in the English department who she felt understood her and were encouraging her efforts to become a writer.

Gail's dormitory friends, unwilling or unable to take on the "shock therapy" of her association, began to drop away and she, on her part, began to draw away from the peer group. She explained her isolation in terms of her disgust at their lack of academic concern caused, she thought, by their limited intellectual ability. The professional staff at the dormitory also began avoiding her, cowed by her keen mind and candid, almost reckless response to their questions.

During November and early December she began acquiring a new set of friends. She spent more time with the English department faculty, who were quite excited over the "find" of her talent. She became a regular at two off-campus beatnik hangouts. She was rarely in the dormitory before closing time and could usually be located at one or the other of these two places. Her class attendance was erratic and her preparation generally non-existent.

Toward mid-semester Gail informed the college that she was unwilling to continue wasting her time with freshman requirements and planned leaving the University at the close of the first semester. The dean, however, was aware of the esteem in which she was held by the English department and agreed to work out a special program for her, deferring some of the required courses and admitting her to an advanced writing laboratory in the second semester.

This satisfied her for a time and she reported later that her most pleasant feelings for the university were associated with this period. For the rest of

December and part of January Gail seemed to be getting by. Her academic work was minimal, however, and this only served to further increase her contempt for the university. Three days before finals Gail again announced that she was leaving because taking final examinations would compromise her basic principles. To complete the semester would indicate that she gave tacit approval to the academic program, while in actuality she strongly disapproved of it for its lack of challenge and essential immaturity.

Her family was contacted and helped to persuade Gail to agree to remain near the campus and attend classes as a part-time student. They insisted that she live in a rooming house under some supervision, rather than alone as Gail had wanted however, and it was evident that she was not happy with this compromise.

These arrangements took up two of the three days before the first of her examinations and she had as yet made no preparations for them, nor showed any signs of doing so. That evening, however, she had a date with an upperclass friend and they discussed her decision quite fully. He told her that she was acting like a fool and ought to grow up and take her exams and stay in school. He was evidently quite convincing because the following morning Gail announced that she was going to do both of these things and spent the rest of the day in study. For the whole of the two-week exam period Gail studied consistently and otherwise led the residence hall staff to feel that she had really settled down. She did in fact receive an A and two B's in the three courses in which she was graded. But the evening following the completion of her finals, she failed to return at closing time and was reported drunk at a nearby restaurant. She was picked up by the Campus Patrol and returned with some difficulty to her dormitory room. A half-hour later a student from her floor reported that Gail had slashed both wrists.

Two long although essentially superficial cuts were found on her left wrist, requiring ten stitches to close; her right wrist was barely scratched. Gail appeared quite remorseful and repeatedly expressed her regret at having caused everyone so much trouble.

The following day, after spending the night at the infirmary, Gail was seen by one of the psychiatrists at the Upstate Medical Center. He reported that she was disturbed, but not so ill that she could not remain at the university providing that she went into therapy. Further, since her major problem revolved around conflict with her family, he felt that her return to living with them, seemingly the other alternative, would make for a poor prognosis.

Both the Infirmary staff and Gail's parents concurred with these recommendations and Gail herself expressed eagerness to return to a normal life in the dormitory again. She transferred to a smaller residence hall, was accepted readily by her new cottage-mates, and appeared in turn to accept them. Five days later, however, she turned on one of the girls and cursed her violently and thoroughly. Although Gail explained later that she had been drinking heavily and remembered the incident only vaguely, the other residents were not to forget it so easily. Gail herself began to refer more frequently to suicide in conversation, the masochistic behavior reappeared, and she was viewed by her peers as seriously disturbed although none of them reported this behavior to the head resident.

In mid-March Gail again slashed her wrists, this time inflicting less damage than before. Hospitalized again in the infirmary, she dressed and slipped out of a first floor window at the first opportunity but was found soon afterwards by the campus patrol down at the bus depot where she was trying to purchase a ticket for New York City. She was returned to the infirmary and kept under guard while an attempt was made to find a private nurse for her. This was unsuccessful and Gail was transferred for the night to Psychiatric Hospital. The following morning she committed herself for treatment there. Although she remained in town for the rest of the summer she did not return to the university again and has not been heard from since.

Discussion

The relationship between test protocol and behavior is rather striking. Although one cannot say that the data that had been obtained at the time of her admission would have averted Gail's breakdown, it is nevertheless clear that it could have provided rich insights into her behavior before these events happened. The assessment with which this case study began was made without benefit of hindsight; it represents no more or less than what would have been said had it been interpreted as a routine matter when Gail Kristus was admitted rather than as a test case in a research study a long time afterwards. Hindsight does tell us now that we would have urged that her special needs be discussed with her soon after she arrived, a month before she herself was brought by circumstance to first reveal them to others who might have taken action. Knowing what the assessors' could have known then, furthermore, it would have been possible to take appropriate positive measures from the beginning in full awareness of the potential gravity of the situation, instead of waiting uncertainly for further clarification in small and dilute doses. Her special talents could have been appraised earlier, _by_ the institution and not as it must have seemed to her in spite of it. The possibilities of establishing congenial relationships with other off-beat kids inside the dormitory framework might have been explored; a pair of "originals" might sustain one another among a dormful of philistines where one alone could perhaps not make it. Gail Kristus might have been found for the English department at the beginning of the semester and saved by the middle of it, rather than discovered by them almost inadvertently at the middle, and lost to everyone by the end.

What might have been is conditional on two things: (1) a technique for screening out such protocols from among the 2300 entrants to the various undergraduate colleges at the time they were admitted to the university along with Gail, and (2) someone to listen to and take action on the basis of such findings.

The first is a matter of technique, the second of administration. There is some hope then that the first, at least, can be solved.

Congruence Models

The ease with which our "nomological knowledge" takes over and makes sense of psychological data even before we find the reasons for our inferences is somewhat startling. We "knew" that Gail Kristus' CCI expectations reflected an extremely negative attitude towards the university (rather than, for example, a positive one from a person who happened to value a good time) immediately upon seeing the profile; it took some reflection to relate that certainty to our knowledge of her own attitudes towards work and play suggested by the AI and our familiarity with the freshman stereotype generally obtained with "expectations" instructions. We also "knew" she was a poet, or at least more likely to write poetry than novels, much more likely to be any kind of writer than a painter or sculptor, and almost certain to be a creative artist in any event rather than a premedical student or an engineer or even pre-law, although it would take a much more strenuous effort to recover some reasonable ex post facto explanation.

At first blush this seems like Verstehende Psychologie all over again. But indescribable feelings and inexplicable intuitions cannot be programmed into a computer, and only a computer can manage the mass of data to be predigested in the present case. The task we would like to turn over to the computer is not one of interpretation but of recognition, the sorting out of 2300 sets of AI-CCI pairs into groups consisting of protocols meeting specified criteria and calling for different forms of action.

Put in these terms the problem can be seen to be one of pattern recognition, difficult perhaps to objectify but no more peculiarly Geisteswissenschaftliche than an entomologist's classification of a bug or a geologist's recognition of the signs of an oil-bearing site.

The distinguishing features of a protocol like Gail's are to be found in four relationships: (1) the relationship between her personality and those around her, (2) between her perceptions of the environment and the perceptions of others, (3) between her own personality and perceptions, and (4) between the aggregate personality characteristics of the group and of the consensual environment. In our own operational terms these might be given the following notation:

(1) $AI_{self} \times AI_{group}$

(2) CCI_{self} (expectation) × CCI group (expectation)

(3) $AI_{self} \times$ CCI self (expectation)

(4) AI group × CCI group (expectation)

Comparisons (1) and (2) correspond to Figures 62, 64 and 65. We learned from them that Gail differed somewhat from her classmates as a person, but was very different from them in her attitudes towards the school she had just entered. Comparisons (3) and (4) were inferred from the available information, but do not in fact exist in quantitative form. It seems clear to us that the expectations of Gail's peers were favorable whereas Gail's were not. Furthermore, if we include the data recorded earlier for Syracuse upperclass women in liberal arts (Figure 36, page 197) two more inferences ,

(5) $\mathrm{AI}_{\mathrm{self}} \times \mathrm{CCI}_{\mathrm{group}}$ (experienced)

(6) $\mathrm{AI}_{\mathrm{group}} \times \mathrm{CCI}$ group (experienced)

may be made that are also important but unquantifiable; (5) tells us that this environment would not, in the ordinary course of evidents, prove satisfactory from Gail's point of view, whereas comparison (6) indicates that it is quite congruent with the needs of her classmates.

We are able to leap the conceptual gap that separates the AI and CCI and "know" that a girl who is low in AI Factors 8, 9, 10 and 12 (Closeness, Sensuousness, Friendliness and Egoism) is not going to readily find a compatable niche for herself at an institution that is high in CCI Factors 9 and 10 (Social Form and Play). What prevents us from closing this gap in terms comprehensible to a computer is that the two matrixes, AI and CCI, are independent of one another in the sense in which they have been calculated. They can be reconciled on "nomological" grounds, but statistically they are from separate universes. It will be recalled that there were no common loadings shared across instruments on any factors in the joint AI-CCI factor space. There were moreover very few correlations of any magnitude between pairs of AI-CCI scales across the population of 1076 students (Appendix J), further reflecting the fact that the responses to one instrument are independent of responses to the other.

The empirically-observed relationships between AI and CCI factor scores for various types of colleges on the other hand tells us that there are need-press interactions at the institutional level, but they must be sought among the AI-CCI correlations among schools rather than persons. When AI and CCI scale means across schools (rather than scale scores across individuals) are intercorrelated the resulting matrix has decidedly large values in it (Appendix J), reflecting the fact that aggregates of students in particular locations tend to share common personality characteristics and a (relevant) environmental press.

This matrix of n x p correlations across school means describes means-end relationships in higher education. Reading across the rows of Table J-2 indicates the kind of academic environment in which each particular student need is maximized; the kinds of students to be found in any given environment are revealed down the columns. The generally large positive entries along the main diagonal reflect the fact that students characterized by any specific need are to be found at institutions with appropriate press.

An example will illustrate the differences in interpretation between this matrix and the one across students (J-1). One of the largest cross-instrument correlations across individuals (within schools) is the .29 between AI-Aggression and CCI-Aggression. Evidently there is some tendency for the most aggressive students to report somewhat more aggression in their environmental surroundings, eith because they tend to congregate in places where there is more or because they are more sensitive to its manifestations. The correlation across school means (between schools) suggests that the former is the most likely since it is also positive and very much larger: .70. The most aggressive students then are to be found in schools with the greatest press for aggression, although as individuals they may tend to "see" somewhat more of it than less aggressive students regardless of where they are.

Not all need-press constructs pair off this way. N Ego Achievement has both diagonal and row entries close to zero, suggesting that students with strong needs for social reform are not to be found in any particular college environment. The significant column entries, however, indicate that institutions which do stress socio-political awareness and participation are most likely to have students who are non-defensive, emotionally labile, supportive of others, and interested in the humanities and the social sciences (n adaptiveness, emotionality, nurturance, and humanities-social science).

Table 58 illustrates these functional interrelationships in terms of correlations between AI and CCI factor means for 64 schools. There are several obvious clusters in this matrix. The largest block of common variance seems to be associated with a highly structured, supportive environment and a docile student body. The combination involves the dependency needs--Orderliness, Submissiveness, Timidity and Closeness--and a well-ordered non-intellectual press that includes Self-expression, Group Life, Academic Organization, and Social Form. Another cluster relates student Friendliness to a press emphasizing Social Form, Play, Vocationalism, and Group Life. This is a distinctly anti-intellectual setting, with high negative relationships throughout Area I of the CCI. Aggressive, narcissistic behavior (egoism and self-assurance) are also involved here. On the other hand, the association between student intellectual interests and the intellectual climate (Area I) suggests that there are some places where an academic atmosphere manages to prevail.

The mean between schools $n \times p$ matrix then is a space in which persons and environments are functionally related to one another; where, in other words, $B = f(np)$. The parameters of this joint matrix should prove to be the dimensions of college cultures--defined as a composite of the consensual environmental press and the aggregate needs of its cohabitants. Insofar as it will permit the joint representation of an individual and his environment with the same metric it should also solve the congruence problem, making it possible to quantify all six congruence comparisons referred to previously on the same yardstick.

Two basic alternatives in factor strategy are emplied by this discussion, involving interrelationships within schools or between them:

TABLE 58

Al-CCI Factor Mean Intercorrelations Between Schools (N=64)

CCI Factor Means			Al Factor Means																	
			I. Achievement Orientation					II. Dependency Needs							III. Emotional Expression					
			1. Self-Assertion	2. Audacity-Timidity	3. Intellectual Interests	4. Motivation	5. Applied Interests	5. Applied Interests	-11. Constraint-Expr.	-12. Diffidence-Ego	6. Orderliness	7. Submissiveness	-2. Timidity	8. Closeness	8. Closeness	9. Sensuousness	10. Friendliness	11. Expressiveness-Constr.	12. Egoism-Diffidence	1. Self-Assertion
I Intellectual Climate	-10.	Work-Play	-40	-26	04	-29	06	06	26	14	34	20	26	01	01	-14	-43	-26	-14	-40
	-11.	Non-Vocational	-11	05	45	22	-34	-34	-35	28	-52	-11	-05	-14	-14	11	-39	35	-28	-11
	1.	Aspiration Level	-15	19	48	33	00	00	-08	22	-26	-02	-19	-17	-17	01	-50	08	-22	-15
	2.	Intellectual Climate	-28	-12	52	27	-14	-14	-26	36	-25	24	12	13	13	21	-32	26	-36	-28
	3.	Student Dignity	-42	-04	23	00	-02	-02	20	42	04	03	04	-17	-17	-21	-54	-20	-42	-42
	4.	Academic Climate	-10	20	60	42	-02	-02	-18	19	-34	-02	-20	-07	-07	17	-27	18	-19	-10
	5.	Academic Achievement	-43	-09	31	02	16	16	20	32	20	21	09	-03	-03	-12	-55	-20	-32	-43
	6.	Self-Expression	-39	-35	20	04	-01	-01	-20	33	05	44	35	33	33	22	-18	20	-33	-39
II Non Intellectual Climate	6.	Self-Expression	-39	-35	20	04	-01	-01	-20	33	05	44	35	33	33	22	-18	20	-33	-39
	7.	Group Life	-32	-52	-28	-31	22	22	09	12	54	59	52	58	58	18	32	-09	-12	-32
	8.	Academic Organization	-37	-47	-31	-39	27	27	39	14	72	48	47	39	39	-04	14	-39	-14	-37
	9.	Social Form	-05	-39	-23	-16	17	17	-03	-03	39	48	39	55	55	25	48	03	03	-05
	10.	Play-Work	40	26	-04	29	-06	-06	-26	14	-34	-20	-26	-01	-01	14	43	26	14	40
	11.	Vocational Climate	11	-05	-45	-22	34	34	35	-28	52	11	05	14	14	-11	39	-35	28	11

I Within Schools AI x CCI. The intercorrelations should be zero. Significant relationships, if any, indicate either (a) an ecological bias due to non-random selection, recruitment or retention, or (b) a "projective" interaction between a given need and some press. The latter relationship may be either positive or negative, i.e. may involve either projection or denial, and may reflect an instrumental artifact as well as a legitimate dynamic intra-individual interaction. This matrix was actually found to be close to zero (Appendix J-1); the few values in it of any magnitude cannot be interpreted unambiguously insofar as options (a) and (b) are concerned without further analysis.

II Between Schools AI x CCI. This matrix involves the relationships between student bodies and schools. There should be many correlations of considerable magnitude in it if there is an ecological distribution of personality types among institutions. The observed matrixes (Appendix J-2 and Table 58) clearly suggest this to be the case.

The matrix from which an AI x CCI cross-correlation is obtained also includes two other sections, one based on the auto-correlations of the AI with itself, the other the CCI. These matrix subsections also yield different products to the two alternative inputs:

III Within Schools AI x AI x CCI x CCI. In addition to Type I intra-individual interactions this yields (a) AI x AI relationships across individuals independent of college characteristics, and (b) CCI x CCI relationships across individuals independent of the characteristics of any particular student body aggregates. This was the strategy for the Saunders analysis from which factors were obtained representing independent personality and institutional dimensions, the analysis on which the first two sections of this report have been based. It will be recalled that the combined AI-CCI matrix is essential if these dimensions are not to be confounded with one another. In the absence of CCI variance, factors derived from an AI x AI only matrix would include possible selection-bias, the result of common variance shared by students from similar environments. Factoring the combined matrix extracts any such interactions as Type I factors, the remainder being specific to non-environmentally-associated personality characteristics. Similarly, the isolated CCI x CCI matrix alone includes institutional variance associated with student similarities; the combined analysis excludes this (or, rather, assigns it explicitly to Type I) and yields factors specific to non-personality-correlated environment characteristics.

IV Between Schools AI x AI x CCI x CCI. Intercorrelating institutional means deliberately confounds aggregate personality characteristics of the student bodies with the environmental attirbutes of the colleges in which they are enrolled. The cross-instrument section of this matrix yields Type II factors and is of considerable interest to us, but the other two sections are worthless. Both the AI x AI and the CCI x CCI factors are contaminated with one another insofar as the sampling units are schools rather than respondents. Thus the AI factors are in part a reflection of differences between colleges and the CCI factors of differences between student bodies. If these analyses

3

are confined to the matrix from a single instrument alone, as Pace has done with the CCI (see Chapter XV below), the confounding is complete since there is then no possibility of extracting even part of the interaction between n and p in the form of Type II factors.

Dimensions of Culture: A Composite Factor Analysis

Type II and IV factor analyses represent an interesting departure from convention. The units in these cases are not the respondents themselves but rather the aggregates they form. Since the aggregate is usually sampled it is not even essential that the same individuals be drawn as respondents to both the AI and the CCI. Different subjects may be employed from the same campus to represent the student body on the AI, the expected press on the CCI, and the consensual press on the CCI, providing that each group can be considered to have been drawn from the same population.

The interchangeability of the units that represent adequately defined aggregates suggests various interesting possibilities. The first analysis of this kind in fact involved an attempt to establish mother-child interaction patterns (Stern *et al*, 1966). The aggregate in this case was the dyad, its two components being measured by a total of 72 types of observations. Approximately a fourth of these were ratings of the mother's behavior relative to the child, another quarter of her characteristic needs, a third quarter of the infant's behavior (including IQ), and the remainder of the infant's manifest needs. Nine factors were extracted, each representing a composite of the dyadic interaction process, i.e. each factor loaded from both mother and infant ratings and appeared to represent a complementary interaction style of a dyadic unit in which each member's needs could be viewed as press for the other member of the pair.

The success of this analysis led the following year to its use by Steinhoff (1965) in the study of the Syracuse public school system referred to previously (pp. 127-133). After extracting OCI factors for the system Steinhoff intercorrelated school means with AI score means for the teaching staff, the unit for the composite in this case being each school building. Three composite factors were obtained, each loading on scales from both the AI and OCI. Hamaty (1966) subsequently attempted to relate these school culture factors to outcome variables such as pupil achievement, absenteeism, teacher absenteeism, turnover, etc. The OCI is described further in Chapter XV.

The application of this procedure to the college data was undertaken by Cohen (1966). A sample of 55 schools was assembled, each contributing AI and CCI data, although not necessarily from the same subjects:

Male Samples

Arkansas Engr.
Cincinnati Bus. Adm.
Cincinnati Engr.
Cornell Engr.
Detroit Engr.
Drexel Bus. Adm.
Drexel Eng.
Georgia Tech.
General Motors Inst.
Illinois Engr.
Louisiana State Engr.
Louisiana State LA
Michigan Engr.
Minnesota
Morehouse
Northeastern Bus. Adm.
Ohio State Bus. Adm.
Purdue
Rice
St. Frances
Syracuse Bus. Adm.
Syracuse Engr.
Syracuse Forestry
Techny
Westminster

Female Samples

Bennington[2]
Bryn Mawr
Huntington
Marian
Mt. Mercy
Mundelein
Randolph-Macon
Sarah Lawrence
Seton Hill
Syracuse Educ.
Syracuse Home Econ.
Syracuse Nursing

Coed Samples

Antioch
Ball State
Blackburn
Buffalo
Buffalo State
Denison[2]
Eastern Mennonite
Emory
Fayetteville
Los Angeles Pacific
Malone
Messiah
Nasson
Northwest Christian
Oberlin
Rhode Island
St. Cloud
Shimer
Syracuse Art
Syracuse LA

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[2] Inadvertently omitted from the factor matrix, but included in subsequent analyses.

Two correlation matrixes were computed, one for scales and the other for factors (analagous to Tables J-2 and 58 respectively). The latter provided the clearest factor structure, presumably because interscale redundancy and error variance had already been minimized. Five factors were extracted in this Type II analysis of relationships between student body and college environment characteristics. Their loadings are shown in Table 59. Each of the five draws on both AI and CCI first-order factors as sources of variance, clearly reflecting composite dimensions of institutional culture rather than of either student personality or psychological climate alone. The five account for 83 per cent of the 23 units of possible variance.

Since the 55-school sample did not involve common respondents for both the AI and the CCI, scores could not be computed for individual students on the new composite factors. Within school variances could be obtained for the 23 schools associated with the matched sample of 1076 students however, and an analysis of variance across schools was calculated for this group of institutions in order to test the capability of these new factors to differentiate between them. As can be seen from Table 60, the five new composite factors distinguish significantly between the 23 schools, yielding F-ratios more comparable in magnitude to those for the CCI factors alone than those for the AI. This in itself lends support to the thesis that these are institutional factors; we saw earlier that student characteristics alone tend to be more diffusely distributed among colleges than unique environmental features.

Since we had previously found that sex differences were important for the AI (although not for the CCI), a two-way analysis of variance by sex across schools was undertaken for the new factors. The third section of Table 60 summarizes these findings. It is clear in this respect that the composite

TABLE 59

Composite AI-CCI Rotated Culture Factor[a]

	CULTURES					
	Expressive 1	Intellectual 2	Protective 3	Vocational 4	Collegiate 5	h^2
NEED FACTORS						
1. Self-Assertion	-03	28	-$\underline{40}$	$\underline{57}$	$\underline{43}$	74
2. Audacity-Timidity	-37	34	-$\underline{70}$	27	27	90
3. Intellectual Interests	-20	$\underline{85}$	-07	09	-05	77
4. Motivation	-18	$\underline{76}$	-20	29	26	80
5. Applied Interests	-$\underline{80}$	26	25	19	-04	81
6. Orderliness	-$\underline{58}$	-32	$\underline{59}$	03	-28	86
7. Submissiveness	-02	17	$\underline{82}$	-11	-14	74
8. Closeness	34	00	$\underline{86}$	-01	-02	86
9. Sensuousness	$\underline{75}$	12	$\underline{46}$	34	03	90
10. Friendliness	$\underline{51}$	-35	29	36	$\underline{45}$	80
11. Expressiveness-Constraint	$\underline{85}$	17	14	12	12	80
12. Egoism-Diffidence	19	-03	-07	$\underline{88}$	08	83
PRESS FACTORS						
1. Aspiration Level	05	$\underline{82}$	-21	-29	-26	87
2. Intellectual Climate	30	$\underline{80}$	11	-33	-22	90
3. Student Dignity	-05	26	-14	-38	-$\underline{79}$	86
4. Academic Climate	14	$\underline{81}$	-12	-09	-18	73
5. Academic Achievement	-16	$\underline{47}$	10	-22	-$\underline{75}$	87
6. Self-Expression	24	$\underline{57}$	$\underline{49}$	-35	-06	75
7. Group Life	-08	-24	$\underline{82}$	-06	17	78
8. Academic Organization	-20	-34	$\underline{62}$	24	-$\underline{50}$	84
9. Social Form	01	-13	$\underline{77}$	12	$\underline{52}$	90
10. Play-Work	07	09	-05	07	$\underline{93}$	89
11. Vocational Climate	-$\underline{41}$	-$\underline{58}$	32	$\underline{50}$	19	89
$\sum c^2$	3.31	4.95	4.94	2.41	3.45	19.05

[a] Underlined loadings represent variables selected for scoring each culture.

TABLE 60

Factor Score Analyses of Variance for Various Samples of Schools

	55 schools[a]		23 schools, 1076 students[b]			11 schools, 638 students[c]		
	$\overline{x}$	σ	$\overline{x}$	σ	F	Schools F	Sexes F	Interactio
NEED FACTORS								
1 Self-Assertion	19.7667	2,4265	19.2607	3.5180	7.2003***	2.6373**	36.6946***	0.6908
2 Audacity-Timidity	18.7047	3.2107	18.1886	2.7074	7.3662***	2.9778***	96.5491***	1,1423
3 Intellectual Int.	25.7393	2.9604	25.9085	2.9204	6.2559***	4.4009***	15.9248***	2.0430*
4 Motivation	26.5746	1.9476	26.6729	1.6798	2.7940***	1.7442	5.2722*	2.0045*
5 Applied Interests	17.9534	2.0469	17.2601	1.9889	4.1719***	2.2272*	16.1167***	3.2833***
6. Orderliness	21.2262	2.8632	20.5707	2.7667	5.5351***	8.9303***	1.1927	2.3403**
7 Submissiveness	22.2858	2.4961	22.6203	2.4861	5.3057***	2.7495**	3.5039	2.0350*
8 Closeness	24.0556	2.7249	24.0979	2.4934	8.3669***	4.6153***	23.7883***	2.5644**
9 Sensuousness	13.9794	2.0542	15.9703	1.8526	8.1636***	1.8404*	29.4293***	1.9773*
10. Friendliness	11.9573	1.4328	11.7366	1.5957	7.0965***	4.3794***	0.0401	1.3579
11 Expressiveness-Constraint	18.0490	2.4725	18.6036	3.2548	9.4338***	2.8247**	22.5191	0.4327
12 Egoism-Diffidence	9.6835	1.4026	9.1292	1.2437	3.1371***	2.5661**	0.2852	0.4327
PRESS FACTORS								
1 Apiration Level	22.2587	2.6794	23.1673	3.4946	31.3897***	27.5899***	0.0024	2.1399*
2. Intellectual Climate	26.2516	5.2636	28.7792	6.3315	48.7696***	36.3161***	1.4451	3.0870
3. Student Dignity	18.7569	2.5753	20.0806	2.6001	17.0320***	14.6913***	1.6354	2.0095*
4 Academic Climate	11.6339	2.2921	12.6978	2.7145	30.8700***	27.8406***	2.6906	3.0392***
5 Academic Achieve.	30.2785	4.3253	32.0760	4.8711	27.6197***	24.8916***	0.0000	2.4765**
6. Self-Expression	22.4795	2.4940	24.2072	4.5121	31.6773***	14.3188***	1.8888	3.0355
7 Group Life	23.8658	3.3888	23.3284	3.6746	32.9592***	21.6143***	0.8120	1.6725
8 Academic Organ.	34.4943	4.9105	33.8258	6.2958	59.5396***	49.2368***	0.0213	1.4830
9. Social Form	26.4836	4.6605	24.7114	4.8980	42.4769***	30.2797***	0.0000	1.5711
10 Play-Work	21.5512	4.7525	20.7932	4.6385	50.7901***	29.3541***	0.0735	1.7060
11 Vocational Climate	28.5734	4.5268	25.9251	6.4589	141.9547***	130.1715***	8.6852**	1.2036
CULTURE FACTORS								
1 Expressive	96.2378	10.4445	102.5546	11.4915	14.8578***	12.7389***	28.3346***	1.7661
Intellectual	186.6428	20.5254	197.5837	26.4917	45.4779***	35.6443***	0.6636	3.9774***
3. Protective	230.3986	21.5139	231.8826	22.2792	27.3374***	22.4587***	37.6072***	3.7099***
4. Vocational	58.0236	6.0847	54.3151	8.7445	27.1090***	18.3327***	26.3894***	0.6178
Collegiate	136.2291	17.0031	130.5195	17.1946	36.9702***	27.8852***	4.1517*	0.1732

*** .001
** .01
* .05

[a] 3046 AI, 3416 CCI respondents (unmatched)

[b] matched AI-CCI respondents

[c] coed schools, matched AI-CCI respondents, 352 men and 286 women

factors are influenced by the sex of the respondents, and that this does not necessarily involve an interaction with school types as such. Although only 11 schools were available for which there were matched AI-CCI scores by sexes, it seems evident enough from these data that the new factor scores should be treated differentially for men and women, as had been done previously for the AI.

Each of the five factors is defined by the underlined loadings in Table 59. The score for each of them is the simple sum of these components. A description of the five culture dimensions follows. This may be further supplemented by reference to Table 61 which lists the schools lying outside the range of one sigma on each factor.

College and University Cultures

1. Expressiveness. The one environmental variable contributing to this factor is the negative loading from Vocational Climate. This suggests a non-work-oriented, nonconforming climate, peopled by students with non-Applied Interests and disinclined towards Orderliness. Their major concerns are to be found in Area III, with high loadings from Expressiveness, Sensuousness and Friendliness. The college culture implied by this factor is esthetic, gregarious and non-practical in its preoccupations, with decidedly feminist overtones. It suggests a community of self-actualizing, but not necessarily creative, people. The schools with high scores on this factor are primarily elite women's colleges although three outstanding coeducational liberal arts colleges may also be found among them. The Expressive culture is not limited to small independent liberal arts colleges however. The list includes several large university-affiliated programs and two Catholic women's colleges. A Catholic women's college also occupies the low end of the distribution on the other hand, along with several other small denominational colleges and

Table 61

Extreme Schools on Each Culture Factor Distribution

1.Expressive		2.Intellectual		3.Protective	
$\bar{x}$ = 96.2328 σ = 10.4445		$\bar{x}$ = 186.6428 σ = 20.5254		$\bar{x}$ = 230.3986 σ = 21.5139	
Bennington	122.77	Oberlin	243.16	Northwest Christian	276.63
Sarah Lawrence	121.83	Bennington	238.80	Marian	269.75
Bryn Mawr	118.51	Sarah Lawrence	237.94	Seton Hill	266.69
Oberlin	113.24	Shimer	237.12	Huntington	265.80
Randolph-Macon W.	113.08	Bryn Mawr	232.51	Mount Mercy	262.14
Syracuse Home Ec.	111.75	Michigan Engr	211.89	Syracuse Nursing	262.04
Shimer	108.35	Cornell Engr	209.56	Randolph-Macon W.	259.96
Mundelein	107.59	Randolph-Macon W.	209.04	Messiah	258.28
Antioch	107.55	Rice	208.89	Ball State-Educ	257.92
Seton Hill	107.53	Marian	207.44	Fayetteville Educ	257.80
				Malone	255.81
				Los Angeles Pacific-Educ	254.15
Georgia Inst. Tech	84.83	Syracuse Bus. Adm	166.01	Rice	207.94
Eastern Mennonite	83.36	Mount Mercy	165.66	Louisiana State Engr	206.00
Nasson	82.09	St. Cloud	164.14	Bryn Mawr	205.52
Louisiana State Engr	80.45	Drexel Bus.Adm	160.57	Cincinnati Bus.Adm.	205.47
Malone	79.36	Rhode Island	160.34	Antioch	205.22
Techny	76.08	Huntington	157.87	Westminster	203.39
Marian	74.05	General Motors Inst	154.80	General Motors Inst.	202.93
		Cincinnati Bus.Adm.	153.41	Cincinnati Engr	202.81
				Cornell Engr	201.19
				Drexel Bus. Adm.	200.46
				Shimer	200.25
				Bennington	198.43
				Louisiana State Lib. Arts	197.50

(continued)

Table 61 (continued)

4.Vocational		5.Collegiate	
$\bar{x}$ = 58.0236 σ = 6.0847		$\bar{x}$ = 136.2291 σ = 17.0031	
Ohio State Bus. Adm	69.95	Syracuse Bus. Adm.	171.45
Messiah	69.47	Syracuse Home Ec.	165.65
Drexel Bus. Adm.	67.58	Syracuse Lib. Arts	164.84
Detroit Engr	65.22	Syracuse Educ	164.72
Fayetteville Educ.	65.02	Westminster	163.00
Morehouse	64.84	Syracuse Art	159.04
		Ohio State Bus. Adm.	157.25
		Syracuse Engr.	156.29
		Rhode Island	155.16
Shimer	49.04	Malone	115.04
Antioch	47.45	Bryn Mawr	113.21
Randolph-Macon W.	49.16	Oberlin	112.43
Sarah Lawrence	43.30	Louisiana State Engr.	111.78
Bryn Mawr	43.39	Northwest Christian	111.48
Oberlin	40.13	Techny	113.36
Bennington	35.23	Bennington	108.83
		Sarah Lawrence	107.44
		Marian	97.60

two engineering programs, suggesting that the absence of an Expressive culture can be associated wither with constraint or with masculinity, coupled in either case with a strong emphasis on vocationalism.

2. Intellectual. This factor is based primarily on Area I of the CCI space. It consists of all the components of the Intellectual Climate score analyzed previously, with the exception of Student Dignity and Work. The distinctive characteristics of students found at the schools high in Intellectual Climate provide the AI component of an Intellectual culture: Intellectual Interests and Motivation. The schools with high scores on this factor are primarily elite liberal arts colleges, but two state universities of recognized high quality, an outstanding engineering college, and a small Catholic women's college are also to be found in this group. The low schools are a mixed bag of technical programs in business administration, engineering, and teacher-training.

3. Protective. The Protective culture factor, like the Intellectual, is also a composite reflecting college environment and student body characteristics found previously in association with one another among the first-order AI and CCI scores. It is represented in the schools described previously as high in Supervisory Closeness. These are largely denominational, chiefly but not exclusively women's colleges, characterized by a highly organized, supportive environment and a relatively dependent and submissive student body. Business administration and engineering programs tend to be least Protective, probably because of their nearly all-male student bodies, but several of the elite liberal arts colleges are also at the low end of this factor distribution. The environment components are Group Life, Social Form, Academic Organization and Self-Expression; the student body characteristics are Closeness, Submissiveness, Timidity, Orderliness, Sensuousness and low Self-Assertion.

4. Vocational. This factor is based on three loadings: CCI Vocational Climate, AI Egoism and AI Self-Assertion. The factor takes its name from the press loading, but this may not be entirely felicitous. The key variable is AI Egoism which derives from need scales Narcissism, Fantasied Achievement and Projectivity. The students in schools characterized by this culture tend then to be egocentric and wishful, as well as exhibitionistic and manipulative (AI Self-Assertion). Leary's phrase--autocratic, managerial--comes to mind. The vocational press itself is based on Practicalness, Puritanism, Deference, Order and Adaptiveness, suggesting a high degree of conventionality and authoritarian structure. The high schools listed in Table 61 for this factor include a number of heavily applied programs; the low ones are the small colleges with the most extreme intellectual cultures.

5. Collegiate. The last composite factor is still another one that had been anticipated by our earlier observations of the coincidence of particular need and press factor combinations at certain types of schools. The highest loading is with Play, followed by Custodial Care (Student Indignity), and Academic Nonachievement! Two more, slightly lower, press loadings are contributed by Social Form and Academic Disorganization. The picture then is of an institutional setting which provides extensive facilities for student recreation and amusement, close policing lest the natives get too restless, and an uneasiness of purpose expressed in ambiguous standards of achievement and uncertain administrative practices. The combination suggests an administrative policy based on fear, the response of an anxious man living with wild animals: keep the beasts happy, don't make them angry, maintain constant vigilance, and never let them know you're afraid. The student in this culture is characterized by Friendliness and Self-Assertion, more kitten perhaps than tiger, but who wouldn't twitch

his tail, assay a low growl and walk a little taller when the effect on others is so extraordinary? The highest Collegiate culture scores are associated with four large universities, one of them contributing scores from six of its nine undergraduate colleges.

Second-Order Factor Structure

The sequence in which the composite factors have been presented is not the order in which they were extracted. The original order was 2, 3, 1, 5 and 4, corresponding roughly to the order of magnitude of the latent roots. As we found previously, however, in the case of both the AI and the CCI first-order factors, the amount of variance accounted for by each factor bears no relationship to the ordering of the factors among themselves; this can only be established by an exploration of the second-order space.

The intercorrelation matrix for the five factors is shown in Table 62. Once again it is clear that the "independent" factors of an orthogonal solution are not necessarily uncorrelated. Such solutions maximize assumed orthogonality among the true factors, but the test factors themselves may in fact be interrelated. For the AI the interrelationships suggested a circular structure as the more meaningful. In the case of the CCI it seemed appropriate to collapse the first-order factors onto the two second-order axes rather than preserve the attenuated circle. The composite factors in Table 62 look more like their AI source in this respect.

The two large diagonal entries suggest that pairs 1-2 and 4-5 lie in close proximity to one another. The remaining neighbors are approximately orthogonal. Factors that are twice-removed from each other have large negative correlations, while the magnitude of those that are only once removed falls

TABLE 62

Correlation Matrix Between First-Order Culture Factors[a]

	1	2	3	4	5
1. Expressive		422	-180	-452	185
2. Intellectual			-123	-667	-373
3. Protective				024	-126
4. Vocational					455
5. Collegiate					

[a] Based on 55 Schools (3038 AI, 3459 CCI).

between these large negatives and zero. It looks as if this might be a circumflex, even though the main diagonal is not all positive nor is the upper right-hand corner closing the circle a very large positive. However, there are very few factors here with which to fill a 360° space--four equally- spaced factors would be 90° apart, with main diagonal entries therefore of .00, and we have only one more factor than that to fit in.

Table 63 lists the rotated factor loadings. Only two factors could be extracted with any substantial variance, accounting between them for 70.6 per cent of the common factor space. This is a two-dimensional space then, again, and the plot of the five co-planar factors is shown in Figure 67. This exhibits the characteristics we had been led to anticipate from the correlation matrix. The angles are such, moreover, that the circular representation is almost mandatory. Reflecting Factors 2 and 3 and rotating the reference axes a few degrees clockwise would line up a Nonintellectual-Vocational-Collegiate axis and a Protective-Constricted one, but the angles between these vectors are quite large and the resulting structure looks more like a continuous quarter-circle fan than it does like two orthogonal clusters.

The College Culture Circumplex. The orientation of the five composite factors in Figure 67 approximates interestingly enough, the same space as the AI needs parameters. Factors 1 and 2 are both associated with highly selective, achievement-oriented schools, and both are to be found in the lower right-hand quadrant. The Protective culture, a denominational school characteristic, is to be found at the left, in the same area corresponding to AI Dependency Needs, and both the Vocational and Collegiate cultures (with their more pronounced aggressive interactions) are to be found at the top of the circle. The Vocational and Intellectual factors are opposed 180° to one another ,as are the Collegiate and

TABLE 63

Second-Order Rotated Culture Factors

	I	II	h^2	KR^a_{20}
1. Expressive	-453	731	739	991
2. Intellectual	-859	177	769	974
3. Protective	016	-639	408	971
4. Vocational	903	-081	822	923
5. Collegiate	641	617	792	978
$\sum c^2$	2.170	1.361	3.530	

[a] Based on 1076 matched AI-CCI cases

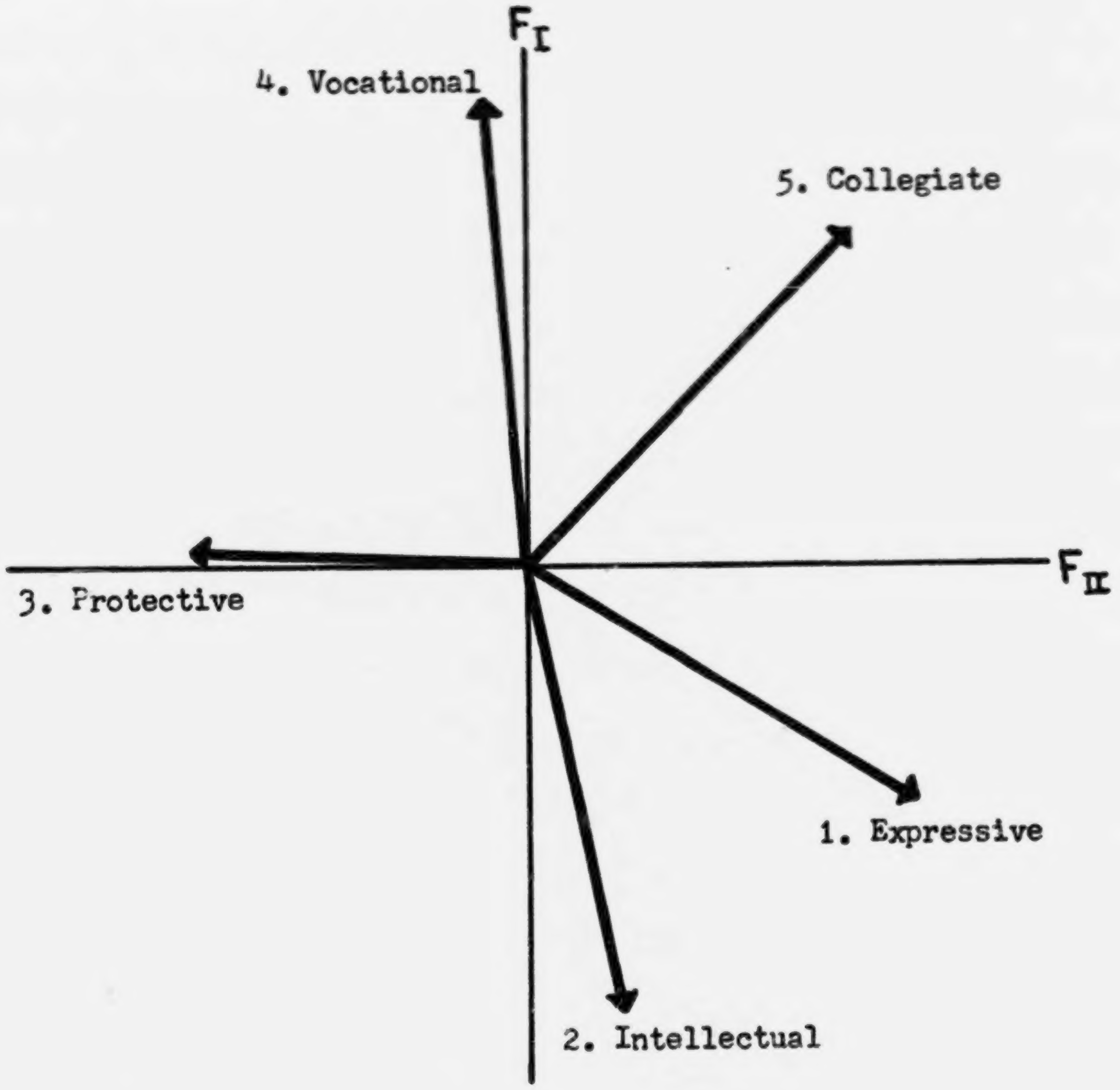
F_I
4. Vocational
5. Collegiate
3. Protective
F_{II}
1. Expressive
2. Intellectual

Fig. 67. College culture factor circumflex.

Expressive Cultures to the more constrained Protective schools.

The correspondence between the two spaces is even more striking when Figures68 and 64 are compared. Both have been constructed in the same fashion, by bisecting the space between factor vectors and thus apportioning the 360° circle among them in accordance with their relative uniqueness in the second-order factor space.

Sex Difference and Norms. The factor profiles of 638 students at eleven schools, separated by sex, are given in Figure 68. These are coeducational student bodies sharing the same schools so the differences in culture scores shown here are attributable both to sex differences in personality and to the differential press experienced by each sex at the same school. The differences correspond to the significant F-ratios reported previously in Table 60. Women students tend to be associated with more Expressive and more Protective cultures; Male cultures are more Vocational, slightly more Collegiate. There are no sex differences for the Intellectual culture.

Because of these differences the original sample of 55 schools was broken down by sex, yielding 45 male student bodies and 32 female. This constitutes the norm sample for the culture factors. Although many of the subjects contributed both an AI and a CCI test protocol, no attempt was made to preserve such matches. There are all told a total of 1850 AI's, 2239 CCI's for the men in these 45 schools and 1247 AI's, 1279 CCI's for the women in their 32 colleges and universities. Means and sigmas for the norm groups, both individual and institutional, may be found in Appendix F.

Cultural Differences

The next group of profiles (Figures 69-73) are the counterpart to the

AI x CCI COLLEGE CULTURE CIRCUMPLEX

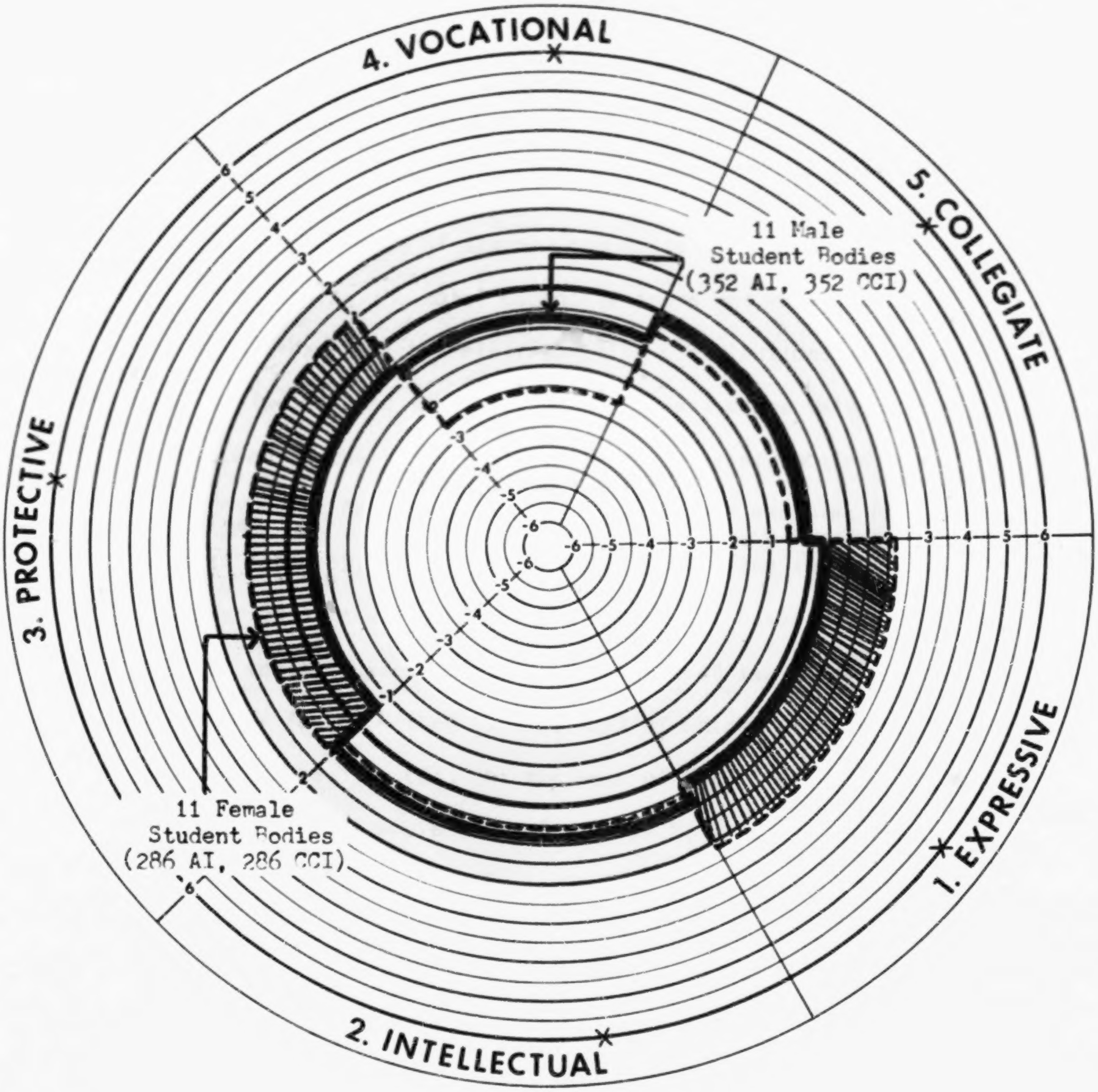

Fig. 68. Male and female college culture profiles.

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earlier figures for AI and CCI factor scores with which we have become familiar. Each factor distribution has been standardized against the separate sexed norm groups, and the middle two-thirds of the norm group range has been screened in with a gray band. Because of our interest in the separate need and press components, however, a further refinement has been added. The two parts of each factor have been separated from one another.

The procedure adopted for this purpose involves: (1) separating the variables loading on each of the new composite factors into two subsets, AI and CCI, (2) apportioning the total composite score and variance between the two subsets in accordance with their respective contributions to the total number of items per factor, and (3) equating a standard score value to each raw subscore that corresponds to the total score to which its contribution would be proportionate. Composite Factor 4, to take the simplest example, has three loadings according to Table 59, two AI and one CCI. Referring these back to Tables 7 and 8 respectively it will be seen that these are based in turn on seven AI and five CCI scales. Since these each consist of ten items the maximum possible score for Factor 4 then is 120, 7/12 of which is contributed by the AI and the remainder by the CCI. At the mean of this distribution, 58.0236, the corresponding AI value would be 33.8, CCI 24.2; at a standard score of 2.0 (one sigma) the total score is 64.1, AI 37.4 and CCI 26.7, etc.

This is the score that would be if both student needs and college press each contributed their proper proportionate share to an obtained factor total. In actual fact this will vary from observation to observation, depending on whether the total is made up of an excess from one source or the other. This makes it possible then for us to examine the juxtaposed profiles in one of these figures and determine the extent to which a given institutional culture is attributable to student body characteristics, the college environment, or both.

College Types. Male liberal arts colleges, i.e. male student bodies at liberal arts colleges whether coed or men's schools, are shown in Figure 69. The student needs profiles at all three types of colleges-independent, denominational, and university-affiliated--are esentially similar to one another, at least in comparison with the college press profiles below. The independents are highest in contribution to the Intellectual culture, denominational to Protective, and university to the Expressive, Vocational and Collegiate, but what is perhaps the more significant are the generally high scores of all three groups of students on Intellectual and their low scores on Vocational.

This is quite different insofar as the contributions of the college environments are concerned. The only type of college to provide a press congruent with these generalized student needs is the independent liberal arts. It follows the same general profile shape, except for Factor I where it far exceeds the student characteristics. These colleges then are evidently more nonconformist than their student bodies. The other two types of colleges shown here, denominational and university, both undersell the intellectual needs of their students and overemphasize vocationalism. The denominational colleges in addition provide a level of Protectiveness that is 2 1/2 standard score units (1 1/2 sigma) higher than its student body needs in this respect.

Female liberal arts groups, (Figure 70) exhibit the same profile characteristics as their male counterparts. The differences from personality component to component are not quite so marked, perhaps, but they show the same relationship as before and so do the press characteristics.

The three types of technical programs in Figure 71 all tend to approximate the same environmental press as the two non-independent liberal arts colleges. Teacher training programs are more Protective than the others, looking much like

GROUP FACTOR SCORE PROFILE--COLLEGE CULTURE (AI x CCI)

NORMS BASED UPON 45 MALE STUDENT BODIES (1850 AI, 2239 CCI) AND
32 FEMALE STUDENT BODIES (1247 AI, 1279 CCI)

STANDARD SCORES (X = 0, σ = 2)

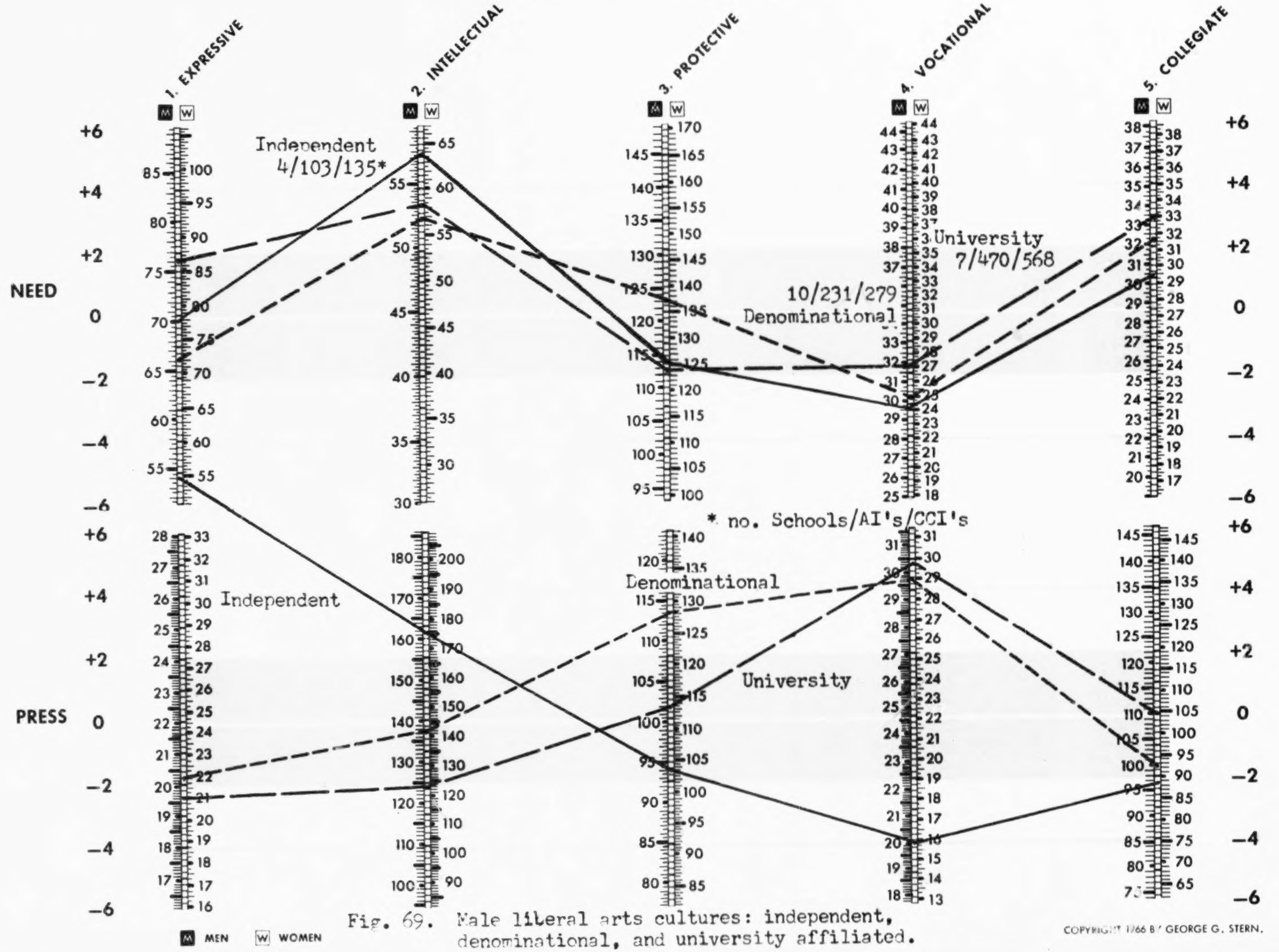

Fig. 69. Male liberal arts cultures: independent, denominational, and university affiliated.

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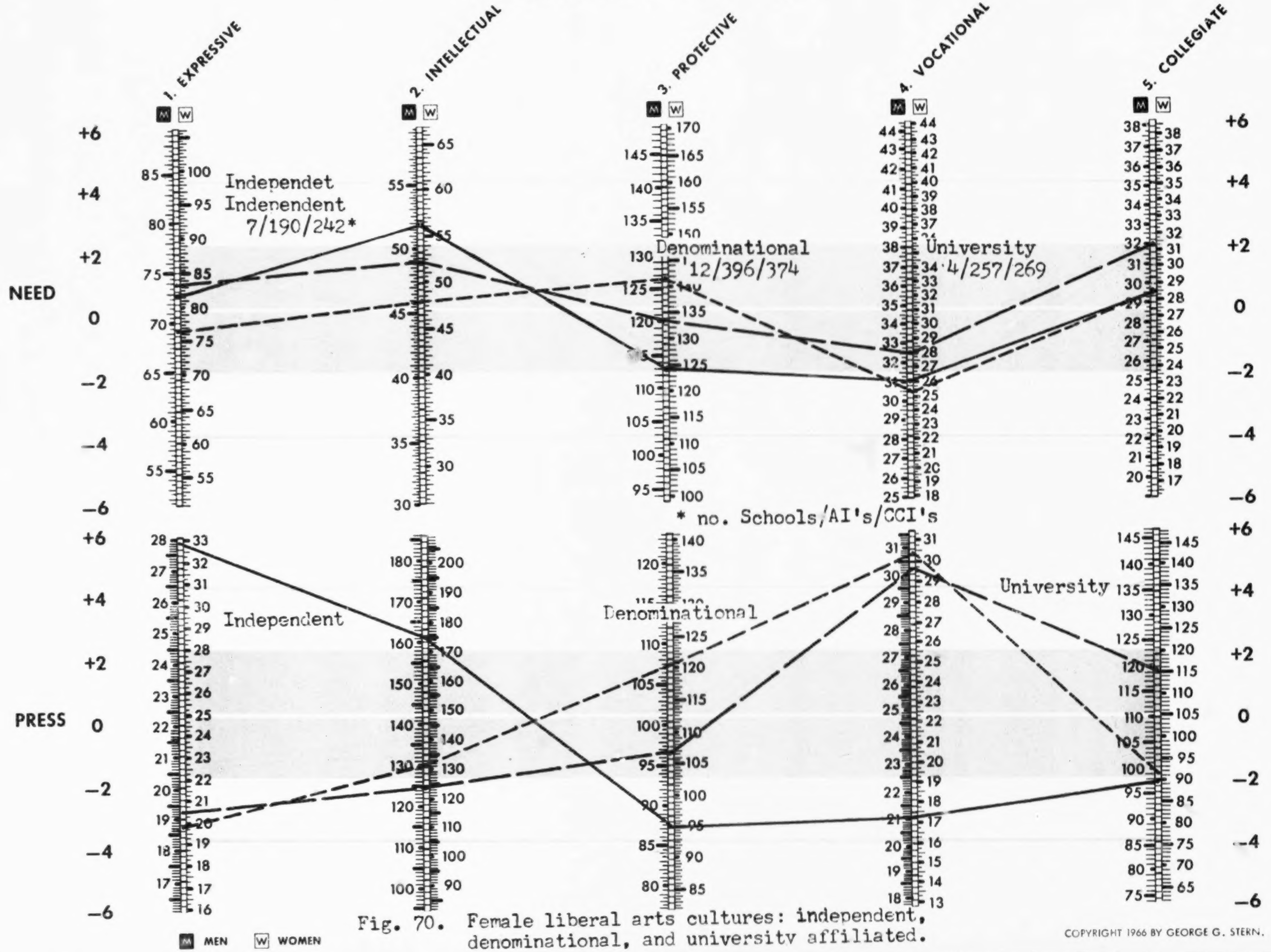
GROUP FACTOR SCORE PROFILE--COLLEGE CULTURE (AI x CCI)

NORMS BASED UPON 45 MALE STUDENT BODIES (1850 AI, 2239 CCI) AND
32 FEMALE STUDENT BODIES (1247 AI, 1279 CCI)

STANDARD SCORES (X = 0, σ = 2)



* no. Schools/AI's/CCI's

Fig. 70. Female liberal arts cultures: independent, denominational, and university affiliated.

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GROUP FACTOR SCORE PROFILE--COLLEGE CULTURE (AI x CCI)

NORMS BASED UPON 45 MALE STUDENT BODIES (1850 AI, 2239 CCI) AND
32 FEMALE STUDENT BODIES (1247 AI, 1279 CCI)

STANDARD SCORES (X = 0, σ = 2)

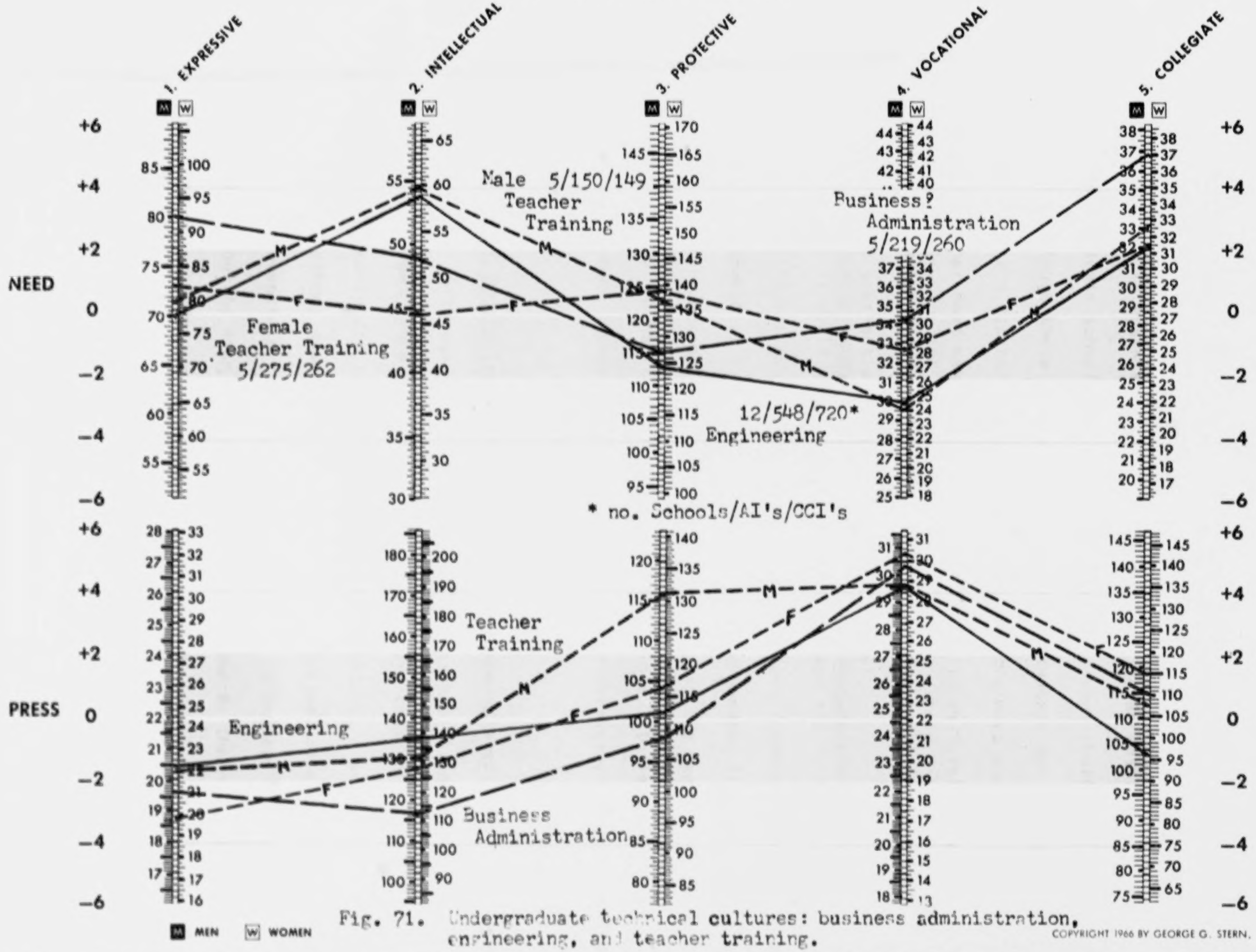

Fig. 71. Undergraduate technical cultures: business administration, engineering, and teacher training.

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the denominational cultures in this respect, but all three are high in Vocationalism. Business administration is again the lowest of all programs in an Intellectual culture; students at these schools are also lowest in their contribution as males to such a culture, although there are two groups of women students who are lower still: denominational and teacher trainees. Male teacher trainees and engineering students on the other hand make the larger contribution to an Intellectual culture, and their programs are the highest on this factor among the technical programs although still substantially below the student level.

In general then it would seem that differences between the five cultures are associated with particular combinations of students and environments. The most distinctive environment is that associated with the independent liberal arts colleges, and this is moreover the only one to approximate the needs of its student body in toto. Other types of colleges provide less intellectual support and more vocational emphasis than their students are evidently prepared to sustain.

Two Schools: Bennington and Marian. Two of the schools compared previously are given in Figure 72. Although we had noted before that each environment seemed congruent to its own group of girls, it is evident here that this is note quite the case. Bennington is best characterized by cultures 1 and 2--it is, as we had known, a school devoted to esthetic and intellectual development. It tends to lead its students in this respect, particularly in Expressiveness, while conversely contributing even less than the students towards the maintenance of Protective, Vocational, or Collegiate cultures. This is a college like its students, only more so.

Marian, up to a point, suggests the same kind of correspondence. These students support just such a Protective, Intellectual culture as their school provides. There is a further congruence in Factors 1 and 5 insofar as neither

GROUP FACTOR SCORE PROFILE--COLLEGE CULTURE (AI x CCI)

NORMS BASED UPON 45 MALE STUDENT BODIES (1850 AI, 2239 CCI) AND
32 FEMALE STUDENT BODIES (1247 AI, 1279 CCI)

STANDARD SCORES (X = 0, σ = 2)

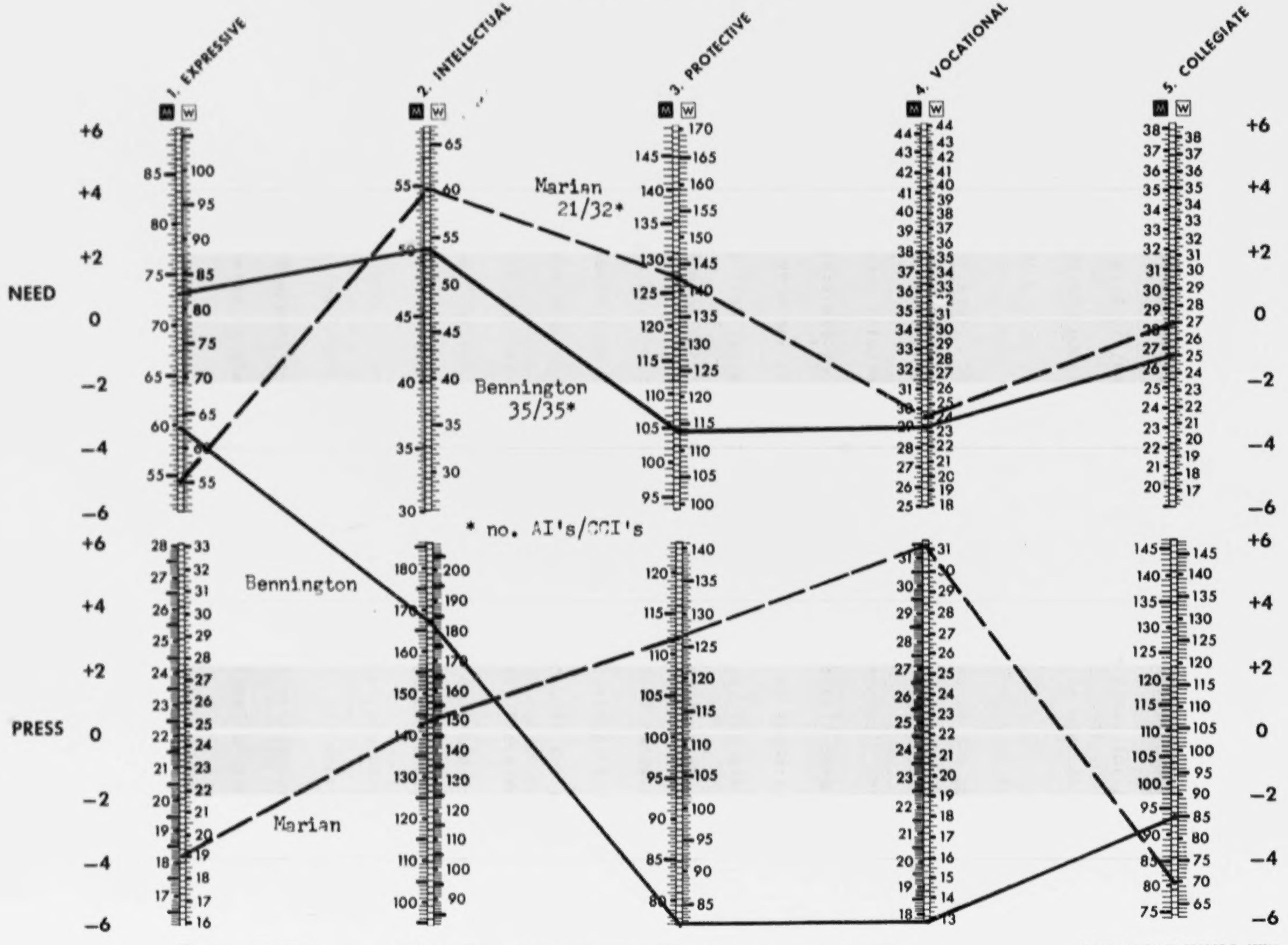

Fig. 72. Two cultures: Bennington and Marian.

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the college environment nor the student body are particularly oriented towards the relevant elements of Expressive or Collegiate cultures. Factor 4 on the other hand suggests an area of real dissonance. The school press for a Vocational culture is at the equivalent of the 99th percentile whereas the students are at the 5th!

A student case: Gail Kristus. The last of the illustrations of the culture factors is of the student with whom this discussion began. Figure 73 offers all six of the comparisons referred to at that time, simultaneously and in the same metric. The interesting thing here is that Gail herself does not really differ too much from her classmates, either freshmen or seniors. Although we are working from two different sets of norms here, the one for individuals being based necessarily on a different population than the one for groups (see Appendix F), and therefore cannot be absolutely certain of small differences, it would seem that Gail may be less intellectual and more vocational and collegiate than the other girls, exceeding them in the same characteristics for which she had condemned them so bitterly. These data suggest an element of self-hatred and intrapsychic conflict that had not been brought out in quite this light before. But the clearest source of difficulty can still be seen to be a function of Gail's perception of her new environment. Radically unlike her fellow incoming freshmen and not even in correspondence with the response of the upperclassmen, Gail's extreme negativism towards the school she had just entered is the most immediate warning signal of trouble.

Discussion

The five culture factors display the same reciprocal need-press interaction that we had been led to anticipate from their two separate sources earlier. The cultures themselves, composites of student personality character-

GROUP FACTOR SCORE PROFILE--COLLEGE CULTURE (AI x CCI)

NORMS BASED UPON 45 MALE STUDENT BODIES (1850 AI, 2239 CCI) AND
32 FEMALE STUDENT BODIES (1247 AI, 1279 CCI)

STANDARD SCORES (X = 0, σ = 2)

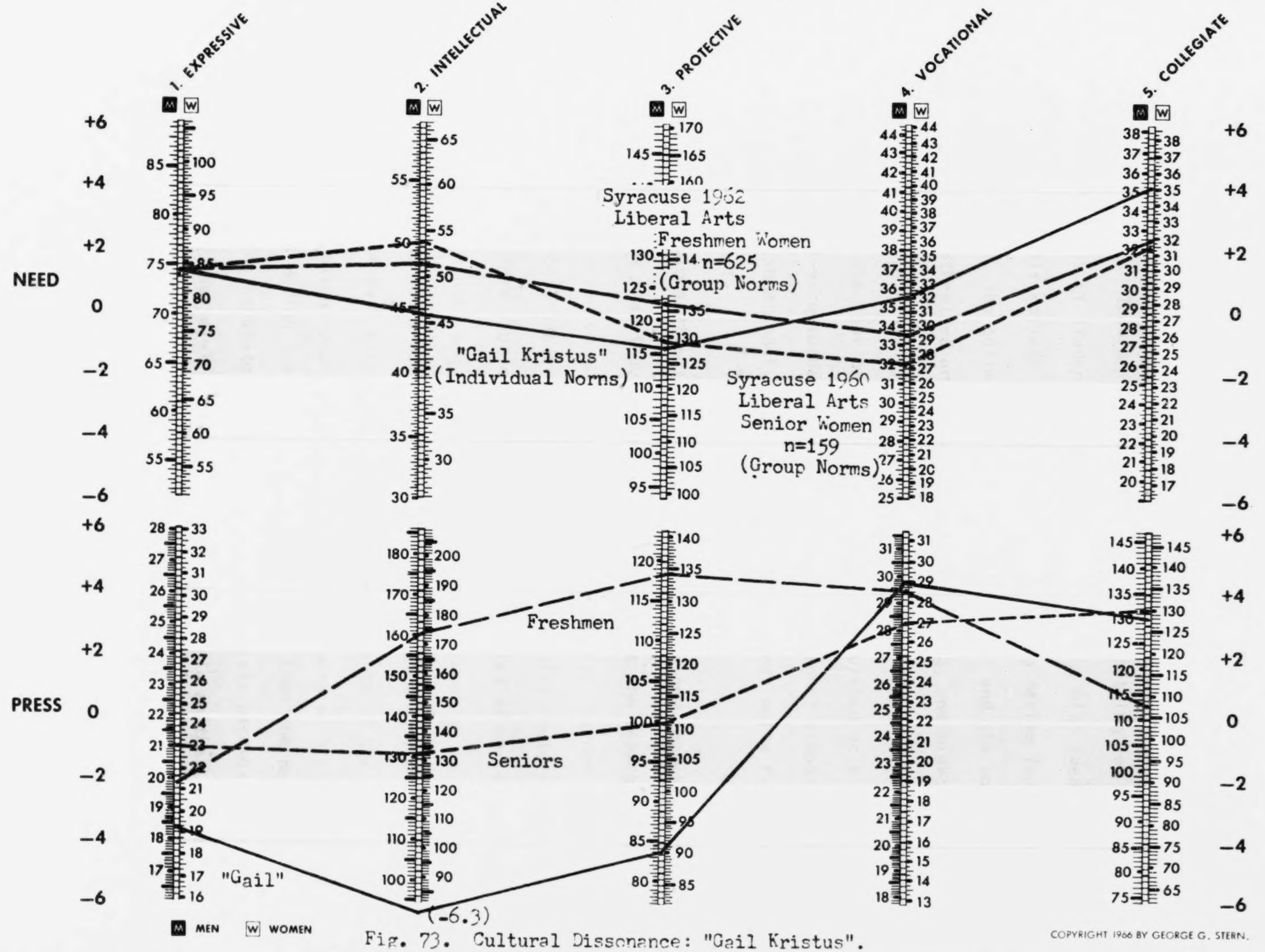

Fig. 73. Cultural Dissonance: "Gail Kristus".

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istics and environmental press, also correspond perfectly to the four subcultures proposed by Trow (1960). Trow's insights into the college setting led him to postulate two dimensions of student orientation: involvement with ideas and identification with their college. From these he was led to derive four subcultures: the academic, the collegiate, the "nonconformist" and the consumer-vocational. These hypothesized entities have been confirmed, one might say, by the empirical evidence of the joint AI-CCI factor analysis.

In addition to the four perceived by Trow, we have picked up a fifth, the protective-communal-structured culture of the denominational school. This is both conformist and vocational, a combination that does not quite fit Trow's otherwise excellent rubric.

Despite the obvious effectiveness and utility of the new composite factors, it must also be apparent that they extend but do not replace the separate representations of need and press on which they are based. We have learned new things about the relationship of students to colleges from these joint factors, things that we had not known before, but many of the details suggested by our earlier analyses of the separate need and press dimensions are not revealed in this less complex joint space. We could not, obviously, have anticipated many of the personal characteristics of Gail Kristus from the needs components of the joint factors as we had from her AI profile. Similarly, we knew much more about the press at Bennington and Marian from the earlier CCI profile than the new one was able to tell us. The separate within-school need and press parameters are informative in one way, the joint between-school parameters in another. Together they seem to provide complementary data of considerably greater depth than either of them alone.

XIII

BENCHMARKS FOR HIGHER EDUCATION: SUMMARY AND EXTRAPOLATIONS

The research summarized here has been directed towards the development of tools for describing the characteristics of students and college environments in terms of comparable psychological dimensions. We have found that colleges differ systematically in the kinds of students they attract and in the experiences to which they are exposed. These differences are familiar ones, corresponding generally to the impressions shared by most observers regarding the characteristics of higher education in this country. The several implications which follow from these data are less novel in themselves than the fact that the support for them here lies on grounds more empirical than polemic. The bottle may be new, but the wine is of an old and familiar vintage.

The Context

Fifteen years ago 82 per cent of all first-time opening enrollments were in four-year colleges; today it is down to 75 per cent. Enrollments were divided equally between public and private institutions fifteen years ago; the shift to state and municipal schools has been occurring quite steadily, at the rate of one per cent a year. Today 65 per cent of all first-time opening enrollments are in public institutions. Although the four-year college is still the largest single type of degree-granting school, it is losing ground rapidly as enrollments shift to public junior colleges and universities.

The situation seems to be analogous to that which prevailed at the secondary school level a century ago. With the growth of free high schools, the academies largely disappeared from the American scene. Will the four-year liberal arts college devoted to general education and the disinterested pursuit of knowledge for its own sake go the same route?

The same forces which made for the emergence of public secondary education are now at work at the college level. Modern society requires an educated populace, and education and technology interact in the form of a constantly accelerating upward spiral. Advances in technical knowledge, the fruits of a preceding generation's education, lead to increased productive capacity in industry--requiring fewer laborers to generate the same level of gross national product, but far more specialists in science and engineering. Approximately 400 people per 1000 were laborers at the turn of the century. The rate today is down to 369 per 1000, although productivity has been increasing at the rate of at least 1.5 to 2.0 per cent compounded annually. The proportion of people in the professions, however, has increased 2-1/2 times in this same half-century. In 1970 the labor force can be expected to be approximately the same fraction of the total population as it was in 1870, but the professions will have increased from 9 per 1000 to an estimated 51 per 1000 in that same 100-year period.[1]

The consequences for education seem inevitable then. There will be an increase in the availability of public education beyond the high schools, providing minimal "literacy" for participation in a technologically advanced society, and a corresponding decrease in private institutions devoted to the liberal arts. The structure of higher education is undergoing a radical revision:

> Students are attending today a type of university which, in its basic organization, is still that of the last decades of the nineteenth century. Having been created as an elite school and with a view to promoting scientific research and to supplying the scientific preparation needed for the practice of professional careers, the university receives today a great number of young people who are not asking these goals of it. Very few are concerned with scientific research (and it could not be otherwise); many aspire to a diploma which would qualify them for professional

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[1] These projections are based on data from Trytten (1955, p. 19) and OSIR (1963, pp.25, 146).

> practice; many more, especially in the humanities departments, are seeking a diploma which would (in strictly formal terms) qualify them to compete for civil service jobs or for positions in private employment. There exists, therefore, an extremely marked gap between the cultural patterns which the university has traditionally made its own and the type of training which most university students demand of it. This gap causes a crisis in the university; it initiates a *de facto* transformation and makes even a *de jure* reform mandatory (Cavazza, 1964, p. 408).

Floud (1963) also finds the "new" student and teacher vocationally-oriented social uproots. They reflect what McGrath and Russell (1958) have claimed to be the conversion of liberal education into undergraduate professional training. Their evidence suggests that vocationalism has indeed made substantial inroads into the liberal arts curriculum. Pressures for specialization have led to increasing numbers of pre-professional courses and programs in these schools. Moreover, many of them are responding to the pressures of circumstances by expanding their graduate facilities and beginning the process of conversion to miniature universities

At the same time, however, the need to maintain flexibility in public education for the enormous numbers moving on to the college level has resulted in the widespread conversion of teacher's colleges to general purpose "liberal arts." It is clear from our own data that this need not be synonomous with the peculiarly potent, distinctive institutional atmospheres that Jacob (1957) found associated with a small number of independent liberal arts colleges. We have found that these schools still differ substantially from the undergraduate professional school and the university-affiliated college. If it is true that the vocational outlook has increased its hold on higher education, then the best of the liberal arts colleges have at least resisted this trend the most.

The significant point seems to be that quality in education is still most closely associated with breadth rather than specialization, and the orientation towards ideas rather than technology which characterizes the small independent liberal arts college cannot yet be dismissed as an irrelevant anachronism from another century.

> ... if after four years, the college turns out students who are broad and open to the world, have deep interest, and values that now reflect their own criticism and best thought, who are sharp and flexible in their thinking and at the same time imaginative, curious, and capable of self expression, and who now have good taste and are sensitive and discriminating with respect to the meaningful aspects of our culture, then this college is successful as an institution of learning... (such colleges) may be said to have furthered the development of their students as total personalities. And this, I should say, is the central aim of a liberal arts education. Education for individual development can be defended as an end in itself.... rather (than) to produce people who can contribute to society (Sanford, 1963).

As Eddy (1959) has observed, the colleges that have had the greatest impact on their students are consistent in relating pedagogical means to ends. The components of these educational organizations are to be found in the academic aspiration level, arrangement of physical plant, intergroup communication, and the interpersonal style between and among the students and faculty. The studies presented here suggest something of the substance of these components in the elite college.

Academic Instruction

A composite picture of the teacher at the elite liberal arts college emerges from responses to the CCI. To the students he seems both cerebral and compassionate. He provides them with an ego ideal, the passionate believer who is personally committed to some scholarly activity and who succeeds in transmitting both the enthusiasm for his field and the sense of value in total committment. He also serves as student super ego, defining standards of aspiration and of achievement, and discouraging a too ready satisfaction with the results of mediocre effort. Thirdly, he is a critic, a rigorous and impartial judge of mental efforts whose arts and habits ultimately become assimilated by his students. And finally, he is compassionate, perceived by his students to be more devoted to the person than to the regulation.

Student Personnel Practices

The attitude of the instructor regarding the regulation of student affairs pervades all aspects of the liberal arts college examined here. Students are encouraged to regard themselves as active participants in the conduct of college affairs, sharing an appropriate measure of the responsibility of administering the academic community. This involves something more than student representation on an academic council, however.

One of the environment factors is based on items which describe an institutional atmosphere represented by (a) a detailed and rigorously administered code of student behavior, (b) a hierarchical system of enforcement depending on students faculty, as well as personnel officers for supervision and policing, and (c) a paranoid attitude on the part of the faculty which extends beyond mere suspicion of student motives in their social behavior to include the resentment of student questions in class, querulousness among the staff members themselves, and the involvement of students in faculty bickering. Typical items on these scales are:

Open-mindedness and objectivity are not stressed here.

Some of the professors react to questions in class as if the students were criticizing them personally.

The school administration has little tolerance for student complaints and protests.

If a student wants help he usually has to answer a lot of embarrassing questions.

There is a recognized group of student leaders on this campus.

The important people at this school expect others to show proper respect for them.

There are provocative associations between the climate suggested by this factor and that of the penal institution. Scored as Custodial Care originally (but subsequently reversed in order to maintain a positive relationship with the rest of area I), it was found to be highest among the state normal schools in the study population, particularly those from the southwest, and above all at the Negro college. Studies by Pace (1963), Bragg (1966), and Brewer (1963) lend further confirmation. Brewer's data yield a student dignity score of -4.8, coupled with submissiveness scores of 3.0 for males and 1.9 for females. Need objectivity for her men is -3.9, press objectivity -2.2.

Scheler (1961) associates such a press with pervasive feelings of impotence and emotional constriction in a syndrome he refers to as ressentiment. The docility of the students in attendance at the teachers colleges may well lead to their identification with the aggressor, but the consequences of withholding opportunities for the exercise of self-discipline from less constrained students is suggested by the experiences of other types of institutions. The large state universities in the sample are the second highest group in custodial care scores, following the normal schools. These are the same schools found at the high end of the play distribution, however, reflecting an active collegiate social life. The largest institutions of higher education in this country are characterized then by a highly expressive student subculture on the one hand, and a correspondingly restrictive administration of student affairs on the other.

One surmises that rigid student personnel practices and a countervailing student culture may well tend to reinforce one another by their antithesis. Each side in such an unstable equilibrium anticipates the worst from the other, operates accordingly, and finds its expectations confirmed. Neither could really exist without the other.

The only institutions which have deliberately sought to minimize custodial personnel practices are the elite liberal arts colleges. Their position reflects a respect for the dignity of the student as an individual which transcends any concern for the maintenance of discipline for its own sake. The educational significance of such a policy lies in part in the fact that the student has an opportunity to make errors, and therefore to learn by them. Of possibly greater importance is the student's realization that risks are worth taking because failure is particular, rather than general. He learns that he can afford to try something novel, that the ultimate restrictions are based on reality rather than on rules, and that the effort is of more genuine personal significance than the outcome. He learns self-control, in other words, rather than conformity.

This may be an easier lesson for adolescents from the social strata that have typically supported the elite liberal arts colleges than it is for others. Attitudes towards authority are in part a function of social class, and this may account for the difference between responses of self-restraint and of self-indulgence. One accustomed to riding loose in the harness reacts less violently to its removal than those who have always felt the bite of the cinch.

The analogy may be irrelevant, however. It is today's adolescent, younger brother to the generation still being castigated for its apathy and privatism, whose non-selfserving commitment has made both the Peace Corps and the protest CORE possible. These movements cut across class levels, as does the pseudo-existentialism which prevails among still another segment of the young adult population. Perhaps the differences in response of these various groups is no more than a reflection of the faculty's own prejudices and expectations. Greeted with suspicion, the adolescent is only too ready to believe that it may be justified, and prove it by his own behavior. Rules under these circumstances are a provocation and a challenge, rather than a restraining influence. Treated with dignity and with deference, the same adolescent discovers that he is equally capable of sustaining an appropriately mature response.

Physical Plant

The pattern of item responses to the CCI associated with the exceptional colleges suggests that independence in thought requires the liberal use of physical as well as psychological space. The most effective schools offer places for students to withdraw in privacy, and opportunities to utilize solitude constructively. Conversely, however, there is also uncomplicated access to the faculty, provided by places at which students and faculty may interact informally.

Student Selection

Students attending the best of the independent liberal arts colleges are distinguished, even as freshmen, by their superior intelligence, breadth of interest, and high motivation. We have found them to be characterized too by a spirited independence: social, emotional, and intellectual. It comes as no surprise then to discover that the graduates of these schools have gone on to win subsequent academic awards and honors in numbers entirely out of proportion to their representation in the general undergraduate population. If, as has been suggested, the success of these schools is in fact attributable to the superiority of their students rather than the uniqueness of their programs, then it might be argued that such institutions ought to be preserved simply as incubators for the intellectual elite. It is evident that the same psychological tests which have enabled us to distinguish their students from the rest of the college population might also be used to select students even more effectively for such all-out intellectual hothouses.

There is ample historical precedence for restricting classical education to an elite class, although it is something of a novelty to find intelligence the criterion for admission. Even the prototype for these colleges, the British public school of the 18th and 19th century, did not consider scholastic aptitude to be an especially crucial student attribute. Yet these same schools were responsible for the preparation of generations of British leadership. The implication surely is that the social value of what these schools do is too important to be restricted to a single segment of the population. The colleges have apparently been only too successful in reinforcing, through selective recruitment and curricular differences, the separate cultures of the intellectual, the businessman, the engineer, the religionist, and the teacher. Surely something is to be gained by extending, rather than limiting, the common experiences of the eggheads, Babbits and Strangeloves. To the extent that such student types are to be found in the mix of most schools even though more concentrated in some than others, it would appear that institutional changes are easier to effect in any case by changing press than by new selection procedures.

Curriculum

What is it that the best of the liberal arts colleges do which helps set them apart, and which might serve then as a guide to other schools striving to achieve academic excellence? To the extent that a school stresses personal achievement, establishes a substantial personal commitment from its students, and above all exercises restraint in regulating the lives of its students, it can succeed in implementing an educational philosophy which does not require a particularly generous endowment in either financial or intelectual resources. The real genius of the liberal arts, the most essential distinction between liberal and servile education, has been described by William Cory, one of the great Eton masters, in the following terms:

> You go to school at the age of twelve or thirteen; and for the next four or five years you are not engaged so much in acquiring knowledge as in making mental efforts under criticism. A certain amount of knowledge you can indeed with average faculties acquire so as to retain; nor need you regret the hours that you have spent on much that is forgotten, for the shadow of lost knowledge at least protects you from many illusions. But you go to a great school, not for knowledge so much as for arts and habits; for the habit of attention, for the art of expression, for the art of assuming at a moment's notice a new intellectual posture, for the art of entering quickly into another person's thoughts, for the habit of submitting to censure and refutation, for the art of indicating assent or dissent in graduated terms, for the habit of regarding minute points of accuracy, for the habit of working out what is possible in a given time, for taste, for discrimination, for mental courage and mental soberness. Above all, you go to a great school for self-knowledge.[2]

Cory actually wrote these words in the 1860's, but the education for which he speaks has been coterminous with western civilization. These schools have been the repository of a tradition that extends over a period of 2500 years, the contemporary version of the education which has served to prepare generations of cultural elite. Much of the "Tradition" is gone. The trivium (grammar, rhetoric, dialectics) and the quadrivium (geometry, arithmetic, astronomy, music) are no longer the backbone of the modern curriculum. The role of the classics has declined substantially, while that of the sciences has expanded.

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[2] Quoted by Geoffrey Madan in William Cory, The Cornhill Magazine, 1938, 65, July to December, p. 208. From an 1861 tract on Eton Reform by William Cory.

Nor should we insist on the preservation of formal methods which have lost their relevance to contemporary life. Exercises in the development of wisdom, however, have not yet become outmoded.

Implementation

There are two assumptions underlying this rhetoric. One is that a consummatory view of education is defensible; the other that it can be implemented with all students, regardless of their own orientation. The very fact that our own data show that the characteristics of students are appropriate to the colleges they attend might be offered as evidence against the effort to promote intellectual values wholesale. But data like these or Astin's (1964) simply indicate that these institutions are organized in ways that are relevant to the _resources_ possessed by their constituency, and not whether the colleges are also relevant to adolescent _purposes_.

Revelry and Revolt on the College Campus

The present restiveness on the college campus may in fact be symptomatic of the lack of such relevance. The rising tide of dissidence, unlike anything since the 1930's, has caused more than one administrator to yearn retrospectively for the "apathetic and privatistic" student generation of a decade ago. The large universities have been particularly vulnerable to young adult protest activities, leading some observers to seek their source in factors of university life _per se_.

Their sheer size, for example, raises acute logistical problems. They attempt to house, feed and schedule tens of thousands of young people, in populations equal in size to many American cities, in physical areas no larger than the average village. The only other institution to attempt such segregation is the military camp. Perhaps the anomic depersonalization of the large university and the garrison-like proportions of its dormitories, dining halls, lecture rooms, library centers, and recreational facilities help bring the college student to the same keen fighting edge as his age-mate in military service, ready to take on any available enemy.

Depersonalization has in any event become a significant construct in an era in which the existential crisis is now fashionably middle-brow. Neither Kierkegaard nor Kerouac have made their way directly into the mass culture, but the geist to which they speak has gotten there. The transition from personal names to nine-digit numbers, from a teacher's presence to a TV screen, rushes quickly on and there is no great enthusiasm for the coming of this brave new world.

That same brave new world has also been apostrophized by educators who blame student participation in activities involving civil rights, nuclear testing, international warefare, etc, etc., on "party-line" agitators, being evidently unable to credit any serious socio-political purpose to a young American. Others, sharing a similar limited appraisal of student motivation have dismissed these events more lightly, attributing them to the natural gonadal restlessness of adolescence, forms of latter-day panty raids intensified by secular changes in our sexual mores. The colleges have become a waystation for the young and lusty they say, more concerned with love than with learning, with sexual license rather than with academic freedom, attended by girls seeking boys and boys avoiding military service. Student personnel workers are particularly sensitive to such interpretations, their professional role planting them firmly in the center of the conflict between generations at a time of accelerated social change.

Parental permissiveness and the decline of the family as a source of guidance and control has also come in for its share of criticism. The last generation to raise serious questions about freedom and authority were the adolescents of the 1930's, seeking a way of life without Father. Are their offspring now caught up in a contemporary version involving Daddy?

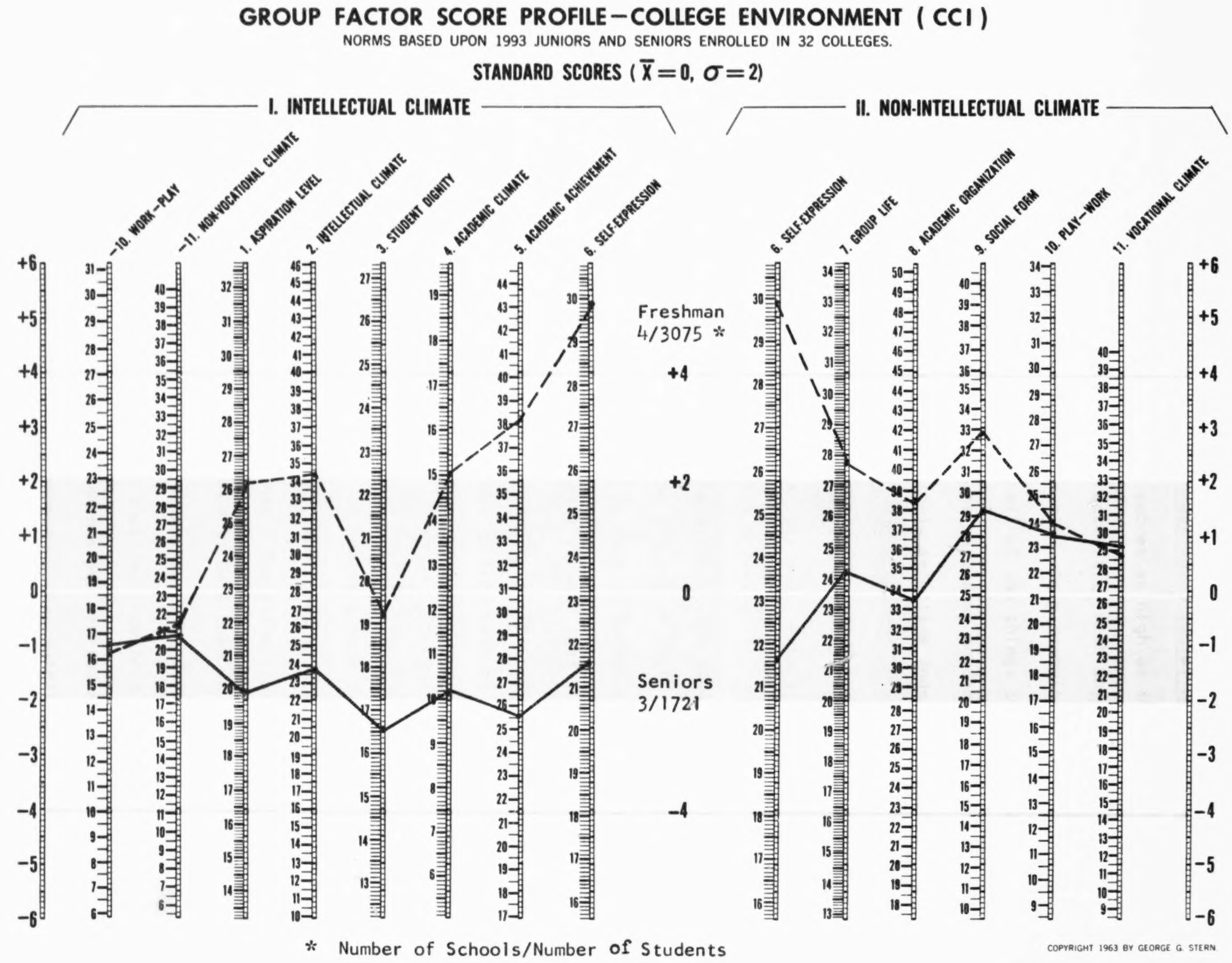
The Freshman Myth

There is little evidence for any of these various alternatives in the material available to us here. Although the data summarized earlier in Figures 19-23 suggest that freshmen are generally more aggressively daring, sensual and narcissistic than seniors (AI Factors 2, 9 and 12), Figure 59 (based on Figures 24 and 25) reflects no great concern with either unbridled fun or freedom among incoming freshmen at the large universities. Their expectations regarding collegiate play (Factor 10) and custodial care (Factor 3) are not excessive and hardly lead to the conclusion that there is an over-riding preoccupation with parietal rules.

What these data do indicate is that the new arrivals on these campuses share stereotyped expectations of college life that combine some of the most distinctive academic characteristics of the elite liberal arts colleges with the community spirit, efficiency and social orderliness of the church-related schools. University-bound high school seniors evidently share a highly idealized image of college life representative of no actual institution at all. Certain aspects of this ideal and its subsequent frustration are especially significant in the large university setting, suggesting a rationale for Berkeley, Brandeis, Brooklyn _et al_ that has received relatively little attention from everyone except the students themselves.

It is evident from Figure 59 that these 3,075 freshmen had expected higher academic standards (Factors 1 _Aspiration Level_, 5 _Academic Achievement_, 2 _Intellectual Climate_, 5 _Academic Climate_), as well as more extensive extracurricular

Fig. 59. Freshman expectations vs. senior perceptions of press.



organization (Factors 8 Academic Organization, 9 Social Form, 7 Group Life). Less than one college in six actually scores as high as this on any of the 11 factors, and no schools combine these activities with anything like the consistency anticipated by these new students. Only denominational schools offer extracurricular programs that include all of the things these freshmen had expected to find, and their expectations regarding academic opportunities would have been fulfilled only at a highly selective independent liberal arts college.

So they are badly misinformed about the extent to which their college is organized rationally to achieve its various ends, expecting it to be a lot more consistent than any college in fact actually is. And they are even more poorly informed about the composite character of the school. They think that it is prepared to do as much toward the shaping of their social lives as it will do for their intellects, whereas in fact no school combines these attributes. These freshmen are evidently unaware that schools which maximize the intellectual climate minimize provisions for extracurricular activities; each of the four incoming classes expect to find both at the school they have just entered.

It might be expected that the large institution in particular would have difficulties in both of these areas. It admits a more diversified student body than the smaller single-purpose schools, and tends to orient itself towards the lowest common denominator among them. The elite liberal arts student finds his expectations for the extracurriculum to have been unrealistic, but he really doesn't care much for social activities anyway. The denominational student must be equally relieved when he discovers that the intellectual atmosphere at his school is actually not out of line with his own limited academic interests, whereas the extracurricular organization more than fulfills his needs for community and direction. Undergraduate students at large universities must be disappointed on both counts, however; the institutional organization of these schools is in most cases distinguished neither for scholarship nor for communal organization. Their one outstanding characteristic, unique to them as a college type, is the consistency with which they provide opportunities for student play--one of the lesser expectations of the incoming freshmen, significantly enough.

But the most striking disparity in these data is the extraordinary performance of these students on the factor involving Self Expression, singling out those activities in particular that involve the development of social commitment and political individuality.

More than three-fourths of the students in these four incoming classes believed that their school expected them to "develop a strong sense of responsibility about their role in contemporary social and political life," and that this would not only involve "developing ideals but also expressing them in action." They thought that other students and faculty were going to be "Actively concerned about national and international affairs," that " a number of prominent professors play a significant role in national or local politics, and that they would be "encouraged to take an active part in social reforms and political programs," "the expression of strong personal beliefs and convictions being far from rare here." An even higher percentage of them believe that "no-one needs to be afraid of expressing extreme or unpopular viewpoints in this school," since it "has an excellent reputation for academic freedom: and "the values most stressed here are open-mindedness and objectivity."

Barely half of the seniors considered any of these statements to be true (see Table 57)!

Table 57

Factor 6. Self-Expression Items Reflecting Major Differences Between Freshman Expectations and Senior Experience

	Item	Per Cent "True"		
		Freshmen	Own Seniors	All Seniors
251.	There are a number of prominent professors who play a significant role in national or local politics.	78.1	57.2	30.2
13.	Discussions get quite heated, with a lot of display of feeling.	81.1	31.5	39.6
163.	Students get so absorbed in various activities that they often lose all sense of time or personal comfort.	89.2	56.5	50.2
282.	Very few things here arouse much excitement or feeling. (False).[a]	94.1	64.7	56.7
161.	Students are actively concerned about national and international affairs.	85.7	39.0	51.9
191.	Students are encouraged to take an active part in social reforms and political programs.	78.1	57.2	30.3
14.	There is a lot of interest here in student-theatrical groups.	84.8	55.4	52.6
253.	Class discussions are typically vigorous and intense.	75.3	26.5	44.9
104.	Most students here would not like to dress up for a fancy ball or a masquerade (False).	77.3	54.8	50.0
44.	When students run a project or put on a show, everybody knows about it.	84.5	48.5	58.0
11.	Student pep rallies, parades, dances, carnivals or demonstrations occur very rarely (False).	78.8	50.4	52.6
43.	Students put a lot of energy into everything they do--in class and out.	74.7	45.4	49.1
162.	An open display of emotion would embarrass most professors (False).	76.3	22.7	51.6
132.	Most students respond to ideas and events in a pretty cool and detached way (False).	73.0	41.0	49.7
252.	Students tend to hide their deeper feelings from one another (False).	73.6	44.1	51.0
192.	Graduation is a pretty matter-of-fact, unemotional event (False).	72.1	22.2	51.4
164.	It is easy to obtain student speakers for clubs or meetings.	71.4	47.9	54.8
	Average	79.3	45.0	48.5

[a] Percentages for items marked false are for "False" response, as keyed to Factor 6.

It is all the more noteworthy that the students do not consider these interests to be characteristic of themselves when they arrive. Unlike the small minority entering elite liberal arts colleges who _are_ intellectual nonconformists, they reveal no collective tendencies towards political activism or even high academic motivation (See Figures 19-23). What they describe for the colleges then is what they expect these institutions to dofor them, not because of what they themselves are like but because this is what they believe is supposed to be going on in higher education.

Viewed in this light theprotest movements at Berkeley, Brandeis, Lafayette and Oklahoma City take on a very specific significance. These are not a variant of the panty raids of the 1940's. Nor are they a high-brow, or even middle-brow, version of the medieval-like wildness of the turned-on city crowds of mods, rockers, hoods and studs. Destructiveness is the exception rather than the rule among thesestudents; it is the police who must be trained in non-violence, who are being taught to limit the use of physical aggression in thepreservation of peace. Roving bands of students, engaged in orgies of wining and wenching, may not have been entirely characteristic of all university life in the 1600's, but the frequency of violent armed student revolts in the Middle Ages has been amply documented. Today's American undergraduate may not be the counterpart of the French petit-bourgeois or of the English young gentleman, but _they_ aren't what they were either anymore, and none of them really resemble the medieval vagabond scholar.

On the contrary, the new student arrives with great expectations, reinforced by everyone save the curiously cynical upperclassman or faculty member who he is not likely to know anyway. Convinced that his travails have now been rewarded by his entrance into the Community of Scholars, he looks forward to the best he had known in high school--the rare moments of real intellectual excitement, a teacher who gave him the sense of being a person rather than a pupil, the discovery of ideals to which people had dedicated themselves--to all this and even headier, undreamed of new miracles of participation and fulfillment that are now to become commonplace.

No mere college could fulfill such expectations. The student comes to realize this after he has been on campus for a short while, and the disillusion can nowhere be more acute than at the large universities where the discrepancy between student needs and institutional environment is the most extreme.

But size alone cannot be the critical variable. Much smaller schools than Berkeley or Ohio State, schools the size of Brandeis, Drew, or Lafayette with enrollments under 2000, have also had major confrontations with their students in the last few years. The common denominator in all of these cases has been ideological, similar in many respects to the six rebellions at Princeton between 1800 and 1830 and the one at Harvard in 1823 that resulted in the expulsion of over half the graduating class. The background then as now involved a disillusioned, dissatisfied, but idealistic student body, led by a militant minority of students and faculty similarly responsive to the forces of social change and eager to institutionalize them in campus reforms (Rudolph, 1965, pp. 118-119).

The issues then involved lingering forms of puritanism that were prolonging the transition from the theologically-oriented colonial college to the secular school of the 19th century, source of lawyers and teachers as well as ministers, learning natural science along with natural law. The problem now is with the paternalism that served such instrumental educational purposes well enough, but has become increasingly antithetical to current values.

The College and Social Change

Two propositions appear central to the emerging social order:

(i) equality of access to the formal institutions of society, particularly those underlying social mobility: education, occupation, residence, and medical care, and as a corrolary,

(2) the extension of power, both political and economic, to a larger proportion of the total community.

The distinctive forms of current legislation are concerned with the achievement of these goals rather than with their elaboration. The significance of these two objectives lies less in their innovation than in their reaffirmation of processes that have been at work for a considerable period of time. The Thirties saw an acceleration of a process of industrial regulation and economic redistribution that had already begun earlier in the century; the Great Society is simply a continuation of this same trend.

But all of this is in the service of an even more basic levelling process that has been at work for a far longer period of time. The claim to privilege as a birthright has all but disappeared from the world, the Arab nations providing one of the few examples of its survival for other than token purposes. Speech, dress and personal hygiene--once the most obvious tests of gentility--no longer differentiate quite so sharply as they once did. The very word "gentleman" is on its way to becoming as archaic as "nobility". Differential status based on economic stratification, sex or color has also been not-so-quietly eroding: children are reared to increasingly advanced ages with little regard in either clothes or conduct for their sex, women approach men in function as well as in manner and appearance, and the Negro is on the verge of minimal but nevertheless absolute equality. The equalization involved in these cases is one of actual participation rather than of potential opportunity. The press for democratization that de Tocqueville saw as the central genius of American culture has not only become a worldwide phenomenon, it has gained momentum as it has spread, activating the underprivileged everywhere. It has now reached the last and largest of these minorities, the young adults.

When times are hard youth participate in man's estate soon enough. Why not then when surrounded by surplus? Earlier, scarcity models for self-denial prepared new generations of achievers, but these seem irrelevant now. The older forms are going, replaced not so much by new ones as by an all-encompassing readiness for change and for facile adaptability. The family has become more a source of affective trust than of social value, although the emphasis had once been the other way around. The church has shown itself ready enough to break with traditional structures. The current interfaith rapprochement reflects the temper of these changes, and the optimistic evolutionism of Chardin is more in keeping with the times than the alienation of Kierkegaard. Education has become increasingly oriented towards teaching children how to think rather than what, emphasizing problem-solving skills rather than the acquisition of information.

All of our major social institutions have participated in this shift in focus during the past 30 years, from proscription to catalyst-like facilitation. Personal autonomy or self-determination is as significant an emergent in the new ecumenical humanism of theology as it is in the new social work. Pediatrics, psychotherapy, and pedagogy have each contributed their share, but perhaps the most significant sign of all is to be found in the usages of leisure now emerging--of time for re-creation rather than recuperation. Leisure activities are becoming synomymous with the discovery and development of new personal resources and style, the realization of self in everyday life.

The consequences of these changes for a child of the times seem likely to be in the development of a capacity for considerable flexibility in adapting to rapid social change. This is the personality of a consumer rather than of a producer, oriented inwardly to the discovery of needs, outwardly towards the means for their fulfillment.

The functional relevance of such a lifestyle in an affluent society is obvious. The viability of such an economy depends upon its capacity to consume. Its legislative programs are devoted characteristically to the fulfillment of needs rather than their regulation. But unemployment is a problem forthe new leisure class, its leisure by necessity rather than choice, sustained on negative taxation rather than inherited wealth. The transition from a Puritan past to a seemingly Polynesian future comes hard, and if Sammy need no longer run he may nevertheless take his own ease as a mark of his personal inadequacy rather than of his society's success. This is a new form of social expendability, the unemployables of surfeit rather than poverty. The physical deformities of the materially underprivileged--tuberculosis, rickets, etc.--are ontheir way towards becoming historical anachronisms; shall the sign of our times be the functional incapacities of the psychologically deprived? The college of the past 75 years is particularly ill-suited in such a context. Its well-worn devices for encouraging industry and orderliness are exercises in preparation for a life that no longer is. Its basic organizational structure--grades, credits, and courses--reflects its dedication to instrumental learning, education as a preparation for something else. But the vitures it served so well are no longer quite so self-evident. The price of sloth is not starvation, and the drive for achievement may not earn any greater distinctions than a gutful of ulcers. Indeed, heedless productivity may soon be more sinful than luxurious waste, especially if the consumption is total and nothing is left behind to clutter up the landscape.

The problem is not with the times, but with the values that are out of joint. The old myths are worse than irrelevant, but the building of a new ethic for civilization is a slow task.

There is another side to the college that is germane here, however. The Freshmen Myth suggests their readiness to accept it as a citadel for consummatory learning, the home for the most princely of all leisures. Their expectations reflect a naive faith in the college as an instrument for rationality, commitment, integrity and mutuality, a new City of God, dedicated to reason and served by a community of scholars who are not withdrawn from life but in it, not detached from others but loving, not preparing but being.

The conviction that this must be so is almost beyond the need for revolt; most students and young faculty are less outraged by the discrepancy between myth and reality than they are startled by the incongruities. The pressures, however, are clearly on the colleges to conform. And the schools are becoming more alike,attempting to combine academic strength with personal intimacy in accordance with a model that has had no prototype in higher education before. The elimination of grades as a coercive device, joint participation in curriculum change and administration, the withdrawal of custodial supervision in the name of the family that would itself no longer attempt to exercise such prerogatives, are all pointing towards the future of the college community.

There is a Utopian quality in this community that weds the intellectual austerity and respect for the individual that characterizes the old liberal arts college with the closeness and warmth of the church-related schools. But then, there is much that is Utopian in contemporary thought. Kenneth Boulding has said that he would not be surprised if there should be a boy right now, in some valley in the East, who is going to be the founder of the next major world religion. I would be even less surprised if he turned out to be an undergraduate at one of our large state universities today.

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Appendix

AI Booklet and Answer Sheet

CCI Booklet and Answer Sheet

Scale Definitions and Glossary

Norm Sample Item Frequencies

Norm Sample Raw Score Means and Sigmas: Scales, Factors and Areas
- AI Upper Division by Sex, Individuals and Institutions
- CCI Upper Division, Individuals and Institutions
- AIxCCI Culture Factors by Sex, Individuals and Institutions

Group Standard Score Means: Scales, Factors and Areas
- AI School Types by Sex, Individuals and Institutions
- CCI School Types, Individuals and Institutions
- AIxCCI School Types Culture Factors by Sex, Individuals and Institutions

Matrix of Intercorrelations Between AI and CCI Scale Scores for 1076 Students

Matrix of Intercorrelations Between AI and CCI Scale Means for 64 Colleges

STERN ACTIVITIES INDEX

Form 1158

George G. Stern, Syracuse University

This booklet contains a number of brief statements describing many different kinds of activities. You will like some of these things. They will seem more pleasant than unpleasant to you, perhaps even highly enjoyable. There will be others that you will dislike, finding them more unpleasant than pleasant. The activities listed in this booklet have been obtained from a great many different persons. People differ in the kinds of things they enjoy, like to do, or find pleasant to experience. You are to decide which of these you like and which you dislike.

DIRECTIONS

On the special answer sheet print your name, and the other information requested. Then, as you read each statement in the booklet, **blacken** space

L — if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D — if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

Be sure to fill in the whole answer space with a heavy black mark, using any #2-1/2 or softer pencil. Do **not** use ball point or ink.

YOU MUST ANSWER EVERY ITEM.

Work rapidly, going through the entire list of statements as quickly as you can. Occasionally compare item numbers from the booklet with the answer sheet space to see that they correspond. Please do not make any stray marks on the answer sheet or in this booklet. Erase all errors and stray marks completely.

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Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

1. Taking the blame for something done by someone I like.
2. Setting difficult goals for myself.
3. Concealing a failure or humiliation from others.

4. Having other people let me alone.
5. Getting what is coming to me even if I have to fight for it.
6. Being quite changeable in my likes and dislikes.

7. Scheduling time for work and play during the day.
8. Working twice as hard at a problem when it looks as if I don't know the answer.
9. Seeing someone make fun of a person who deserves it.

10. Persuading a group to do something my way.
11. Being a newspaperman who crusades to improve the community.
12. Listening to music that makes me feel very sad.

13. Taking up a very active outdoor sport.
14. Keeping in the background when I'm with a group of wild, fun-loving, noisy people.
15. Toughening myself, going without an overcoat, seeing how long I can go without food or sleep, etc.

16. Diving off the tower or high board at a pool.
17. Learning about the causes of some of our social and political problems.
18. Doing something crazy occasionally, just for the fun of it.

19. Imagining what I would do if I could live my life over again.
20. Feeding a stray dog or cat.
21. Taking special precautions on Friday, the 13th.

22. Washing and polishing things like a car, silverware, or furniture.
23. Making my work go faster by thinking of the fun I can have after it's done.
24. Being good at typewriting, knitting, carpentry, or other practical skills.

25. Understanding myself better.

26. Learning how to prepare slides of plant and animal tissue, and making my own studies with a microscope.
27. Holding something very soft and warm against my skin.
28. Talking about how it feels to be in love.

29. Belonging to a close family group that expects me to bring my problems to them.
30. Concentrating intently on a problem.
31. Suffering for a good cause or for someone I love.

32. Working for someone who will accept nothing less than the best that's in me.
33. Defending myself against criticism or blame.
34. Going to the park or beach with a crowd.

35. Shocking narrow minded people by saying and doing things of which they disapprove.
36. Getting up and going to bed at the same time each day.
37. Planning a reading program for myself.

38. Returning to a task which I have previously failed.
39. Doing what most people tell me to do, to the best of my ability.
40. Having other people depend on me for ideas or opinions.

41. Being an important political figure in a time of crisis.
42. Crying at a funeral, wedding, graduation, or similar ceremony.
43. Exerting myself to the utmost for something unusually important or enjoyable.

44. Wearing clothes that will attract a lot of attention.
45. Working until I'm exhausted, to see how much I can take.
46. Being careful to wear a raincoat and rubbers when it rains.

47. Studying the music of particular composers, such as Bach, Beethoven, etc.
48. Acting impulsively just to blow off steam.
49. Thinking about ways of changing my name to make it sound striking or different.

50. Discussing with younger people what they like to do and how they feel about things.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

51. Waiting for a falling star, white horse, or some other sign of success before I make an important decision.
52. Keeping my bureau drawers, desks, etc., in perfect order.
53. Spending most of my extra money on pleasure.

54. Learning how to repair such things as the radio, sewing machine, or car.
55. Thinking about different kinds of unusual behavior, like insanity, drug addiction, crime, etc.
56. Studying wind conditions and changes in atmospheric pressure in order to better understand and predict the weather.

57. Eating after going to bed.
58. Watching a couple who are crazy about each other.
59. Working for someone who always tells me exactly what to do and how to do it.

60. Finding the meaning of unusual or rarely used words.
61. Being polite or humble no matter what happens.
62. Setting higher standards for myself than anyone else would, and working hard to achieve them.

63. Admitting when I'm in the wrong.
64. Leading an active social life.
65. Doing something that might provoke criticism.

66. Rearranging the furniture in the place where I live.
67. Putting off something I don't feel like doing, even though I know it has to be done.
68. Having to struggle hard for something I want.

69. Listening to a successful person tell about his experience.
70. Getting my friends to do what I want to do.
71. Taking an active part in social and political reform.

72. Avoiding excitement or emotional tension.
73. Staying up all night when I'm doing something that interests me.
74. Speaking at a club or group meeting.

75. Imagining myself president of the United States.

76. Crossing streets only at the corner and with the light.
77. Listening to TV or radio programs about political and social problems.
78. Being in a situation that requires quick decisions and action.

79. Pausing to look at myself in a mirror each time I pass one.
80. Helping to collect money for poor people.
81. Paying no attention to omens, signs, and other forms of superstition.

82. Keeping an accurate record of the money I spend.
83. Dropping out of a crowd that spends most of its time playing around or having parties.
84. Helping to direct a fund drive for the Red Cross, Community Chest, or other organizations.

85. Imagining life on other planets.
86. Reading articles which tell about new scientific developments, discoveries, or inventions.
87. Chewing on pencils, rubber bands, or paper clips.

88. Talking about who is in love with whom.
89. Being a lone wolf, free of family and friends.
90. Spending my time thinking about and discussing complex problems.

91. Trying to figure out how I was to blame after getting into an argument with someone.
92. Competing with others for a prize or goal.
93. Being ready with an excuse or explanation when criticized.

94. Meeting a lot of people.
95. Arguing with an instructor or superior.
96. Being generally consistent and unchanging in my behavior.

97. Going to a party where all the activities are planned.
98. Doing a job under pressure.
99. Going along with a decision made by a supervisor or leader rather than starting an argument.

100. Organizing groups to vote in a certain way in elections.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

101. Living a life which is adventurous and dramatic.
102. Having someone for a friend who is very emotional.
103. Sleeping long hours every night in order to have lots of rest.

104. Playing music, dancing, or acting in a play before a large group.
105. Thinking about what I could do that would make me famous.
106. Riding a fast and steep roller coaster.

107. Comparing the problems and conditions of today with those of various times in the past.
108. Doing whatever I'm in the mood to do.
109. Daydreaming about what I would do if I could live my life any way I wanted.

110. Comforting someone who is feeling low.
111. Avoiding things that might bring bad luck.
112. Arranging my clothes neatly before going to bed.

113. Getting as much fun as I can out of life, even if it means sometimes neglecting more serious things.
114. Learning how to make such things as furniture or clothing myself.
115: Trying to figure out why the people I know behave the way they do.

116. Doing experiments in physics, chemistry or biology in order to test a theory.
117. Sleeping in a very soft bed.
118. Seeing love stories in the movies.

119. Having someone in the family help me out when I'm in trouble.
120. Working crossword puzzles, figuring out moves in checkers or chess, playing anagrams or scrabble, etc.
121. Admitting defeat.

122. Taking examinations.
123. Being corrected when I'm doing something the wrong way.
124. Belonging to a social club.

125. Teasing someone who is too conceited.

126. Moving to a new neighborhood or city, living in a different country, etc.
127. Finishing something I've begun, even if it is no longer enjoyable.
128. Staying away from activities which I don't do well.

129. Following directions.
130. Being able to hypnotize people.
131. Playing an active part in community affairs.

132. Going on an emotional binge.
133. Walking instead of riding whenever I can.
134. Doing something that will create a stir.

135. Thinking about winning recognition and acclaim as a brilliant military figure.
136. Standing on the roof of a tall building.
137. Studying different types of government, such as the American, English, Russian, German, etc.

138. Doing things on the spur of the moment.
139. Having lots of time to take care of my hair, hands, face, clothing, etc.
140. Having people come to me with their problems.

141. Being especially careful the rest of the day if a black cat should cross my path.
142. Recopying notes or memoranda to make them neat.
143. Finishing some work even though it means missing a party or dance.

144. Working with mechanical appliances, household equipment, tools, electrical apparatus, etc.
145. Thinking about what the end of the world might be like.
146. Studying the stars and planets and learning to identify them.

147. Listening to the rain fall on the roof, or the wind blow through the trees.
148. Flirting.
149. Knowing an older person who likes to give me guidance and direction.

150. Being a philosopher, scientist, or professor.

Legend: L – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

151. Having people laugh at my mistakes.
152. Working on tasks so difficult I can hardly do them.
153. Keeping my failures and mistakes to myself.

154. Going to parties where I'm expected to mix with the whole crowd.
155. Annoying people I don't like, just to see what they will do.
156. Leading a well-ordered life with regular hours and an established routine.

157. Planning ahead so that I know every step of a project before I get to it.
158. Avoiding something at which I have once failed.
159. Turning over the leadership of a group to someone who is better for the job than I.

160. Being an official or a leader.
161. Actively supporting a movement to correct a social evil.
162. Letting loose and having a good cry sometimes.

163. Taking frequent rest periods when working on any project.
164. Being the only couple on the dance floor when everyone is watching.
165. Imagining situations in which I am a great hero.

166. Driving fast.
167. Talking about music, theater or other art forms with people who are interested in them.
168. Controlling my emotions rather than expressing myself impulsively.

169. Catching a reflection of myself in a mirror or window.
170. Lending my things to other people.
171. Carrying a good luck charm like a rabbit's foot or a four-leaf clover.

172. Making my bed and putting things away every day before I leave the house.
173. Going to a party or dance with a lively crowd.
174. Managing a store or business enterprise.

175. Seeking to explain the behavior of people who are emotionally disturbed.

176. Going to scientific exhibits.
177. Chewing or popping gum.
178. Reading novels and magazine stories about love.

179. Having others offer their opinions when I have to make a decision.
180. Losing myself in hard thought.
181. Accepting criticism without talking back.

182. Doing something very difficult in order to prove I can do it.
183. Pointing out someone else's mistakes when they point out mine.
184. Having lots of friends who come to stay with us for several days during the year.

185. Playing practical jokes.
186. Doing things a different way every time I do them.
187. Keeping to a regular schedule, even if this sometimes means working when I don't really feel like it.

188. Quitting a project that seems too difficult for me.
189. Listening to older persons tell about how they did things when they were young.
190. Organizing a protest meeting.

191. Getting my friends to change their social, political, or religious beliefs.
192. Yelling with excitement at a ball game, horse race, or other public event.
193. Having something to do every minute of the day.

194. Speaking before a large group.
195. Imagining how it would feel to be rich and famous.
196. Playing rough games in which someone might get hurt.

197. Finding out how different languages have developed, changed, and influenced one another.
198. Letting my reasoning be guided by my feelings.
199. Dressing carefully, being sure that the colors match and the various details are exactly right.

200. Taking care of youngsters.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

201. Having a close friend who ignores or makes fun of superstitious beliefs.
202. Shining my shoes and brushing my clothes every day.
203. Giving up whatever I'm doing rather than miss a party or other opportunity for a good time.

204. Fixing light sockets, making curtains, painting things, etc., around the house.
205. Reading stories that try to show what people really think and feel inside themselves.
206. Collecting data and attempting to arrive at general laws about the physical universe.

207. Sketching or painting.
208. Daydreaming about being in love with a particular movie star or entertainer.
209. Having people fuss over me when I'm sick.

210. Engaging in mental activity.
211. Making a fuss when someone seems to be taking advantage of me.
212. Choosing difficult tasks in preference to easy ones.

213. Apologizing when I've done something wrong.
214. Going to the park or beach only at times when noone else is likely to be there.
215. Questioning the decisions of people who are supposed to be authorities.

216. Eating my meals at the same hour each day.
217. Doing things according to my mood, without following any plan.
218. Doing something over again, just to get it right.

219. Disregarding a supervisor's directions when they seem foolish.
220. Talking someone into doing something I think ought to be done.
221. Trying to improve my community by persuading others to do certain things.

222. Being with people who seem always to be calm, unstirred, or placid.
223. Giving all of my energy to whatever I happen to be doing.
224. Being the center of attention at a party.

225. Setting myself tasks to strengthen my mind, body, and will power.

226. Skiing on steep slopes, climbing high mountains, or exploring narrow underground caves.
227. Learning more about the work of different painters and sculptors.
228. Speaking or acting spontaneously.

229. Imagining the kind of life I would have if I were born at a different time in a different place.
230. Talking over personal problems with someone who is feeling unhappy.
231. Going ahead with something important even though I've just accidentally walked under a ladder, broken a mirror, etc.

232. Keeping my room in perfect order.
233. Being with people who are always joking, laughing, and out for a good time.
234. Being treasurer or business manager for a club or organization.

235. Imagining what it will be like when rocket ships carry people through space.
236. Reading scientific theories about the origin of the earth and other planets.
237. Eating so much I can't take another bite.

238. Listening to my friends talk about their love-life.
239. Receiving advice from the family.
240. Solving puzzles that involve numbers or figures.

241. Taking the part of a servant or waiter in a play.
242. Sacrificing everything else in order to achieve something outstanding.
243. Having my mistakes pointed out to me.

244. Going on a vacation to a place where there are lots of people.
245. Fighting for something I want, rather than trying to get it by asking.
246. Avoiding any kind of routine or regularity.

247. Organizing my work in order to use time efficiently.
248. Avoiding some things because I'm not sure I'll be successful at it.
249. Carrying out orders from others with snap and enthusiasm.

250. Directing other people's work.

Legend: L – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

251. Being a foreign ambassador or diplomat.
252. Seeing sad or melodramatic movies.
253. Avoiding things that require intense concentration.

254. Telling jokes or doing tricks to entertain others at a large gathering.
255. Pretending I am a famous movie star.
256. Swimming in rough, deep water.

257. Studying the development of English or American literature.
258. Being guided by my heart rather than by my head.
259. Making my handwriting decorative or unusual.

260. Taking care of someone who is ill.
261. Finding out which days are lucky for me, so I can hold off important things to do until then.
262. Having a special place for everything and seeing that each thing is in its place.

263. Doing something serious with my leisure time instead of just playing around with the crowd.
264. Learning how to raise attractive and healthy plants, flowers, vegetables, etc.
265. Thinking about the meaning of eternity.

266. Reading about how mathematics is used in developing scientific theories, such as explanations of how the planets move around the sun.
267. Walking along a dark street in the rain.
268. Being romantic with someone I love.

269. Having people talk to me about some personal problem of mine.
270. Following through in the development of a theory, even though it has no practical applications.
271. Telling others about the mistakes I have made and the sins I have committed.

272. Picking out some hard task for myself and doing it.
273. Concealing my mistakes from others whenever possible.
274. Inviting a lot of people home for a snack or party.

275. Proving that an instructor or superior is wrong.
276. Staying in the same circle of friends all the time.
277. Striving for precision and clarity in my speech and writing.
278. Giving up on a problem rather than doing it in a way that may be wrong.

279. Having friends who are superior to me in ability.
280. Influencing or controlling the actions of others.
281. Converting or changing the views of others.

282. Being unrestrained and open about my feelings and emotions.
283. Doing things that are fun but require lots of physical exertion.
284. Doing things which will attract attention to me.

285. Thinking about how to become the richest and cleverest financial genius in the world.
286. Being extremely careful about sports that involve some danger like sailing, hunting, or camping.
287. Reading editorials or feature articles on major social issues.

288. Making up my mind slowly, after considerable deliberation.
289. Trying out different ways of writing my name, to make it look unusual.
290. Providing companionship and personal care for a very old helpless person.

291. Going to a fortune-teller, palm reader or astrologer for advice on something important.
292. Keeping a calendar or notebook of the things I have done or plan to do.
293. Limiting my pleasures so that I can spend all of my time usefully.

294. Being efficient and successful in practical affairs.
295. Concentrating so hard on a work of art or music that I don't know what's going on around me.
296. Studying rock formations and learning how they developed.

297. Reading in the bathtub.
298. Reading about the love affairs of movie stars and other famous people.
299. Being with someone who always tries to be sympathetic and understanding.

300. Working out solutions to complicated problems, even though the answers may have no apparent, immediate usefulness.

COLLEGE CHARACTERISTICS INDEX

Form 1158

George G. Stern and C. Robert Pace

There are 300 statements in this booklet. They are statements about college life. They refer to the curriculum, to college teaching and classroom activities, to rules and regulations and policies, to student organizations and activities and interests, to features of the campus, etc. The statements may or may not be characteristic of your college, because colleges differ from one another in many ways. You are to decide which statements are characteristic of your college and which are not. Your answers should tell us what you believe the **college** is like rather than what you might personally prefer. You won't **know** the answer to many of these statements, because there may not be any really definite information on which to base your answer. **Your response will simply mean that in your opinion the statement is probably true or probably false about your college.** Do not omit any item.

DIRECTIONS

On the special answer sheet print your name, and the other information requested. Then, as you read each statement in the booklet, **blacken** space

T—when you think the statement is generally TRUE or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F—when you think the statement is generally FALSE or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

Be sure to fill in the whole answer space with a heavy black mark, using any #2-1/2 or softer pencil. Do **not** use ball point or ink.

YOU MUST ANSWER EVERY ITEM.

Work rapidly, going through the entire list of statements as quickly as you can. Occasionally compare item numbers from the booklet with the answer sheet space to see that they correspond. Please do not make any stray marks on the answer sheet or in this booklet. Erase all errors and stray marks completely.

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George G. Stern and C. Robert Pace

Legend: T — True. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

1. Students are encouraged to criticize administrative policies and teaching practices.
2. The competition for grades is intense.
3. In many courses grade lists are publicly posted.

4. There are no fraternities or sororities.
5. Students are conscientious about taking good care of school property.
6. The students here represent a great variety in nationality, religion and social status.

7. Most courses are very well organized and progress systematically from week to week.
8. Professors often try to provoke arguments in class, the livelier the better.
9. Students address faculty members as "professor" or "doctor."

10. There is a recognized group of student leaders on this campus.
11. Student pep rallies, parades, dances, carnivals or demonstrations occur very rarely.
12. Students here learn that they are not only expected to develop ideals but also to express them in action.

13. Discussions get quite heated, with a lot of display of feeling.
14. There is a lot of interest here in student theatrical groups.
15. Many famous people are brought to the campus for lectures, concerts, student discussions, etc.

16. There is an extensive program of intramural sports and informal athletic activities.
17. Many of the social science professors are actively engaged in research.
18. In most classes there is very little joking and laughing.

19. Receptions, teas, or formal dances are seldom given here.
20. Many upperclassmen play an active role in helping new students adjust to campus life.
21. No one needs to be afraid of expressing extreme or unpopular viewpoints in this school.

22. In many classes students have an assigned seat.
23. Students really get excited at an athletic contest.
24. It's important socially here to be in the right club or group.

25. Books dealing with psychological problems or personal values are widely read and discussed.

26. The library is exceptionally well equipped with journals, periodicals, and books in the natural sciences.
27. On nice days many classes meet outdoors on the lawn.
28. There is lots of informal dating during the week — at the library, snack bar, movies, etc.

29. Students often help one another with their lessons.
30. There is a lot of emphasis on preparing for graduate work.
31. Resident students must get written permission to be away from the campus overnight.

32. It is fairly easy to pass most courses without working very hard.
33. Student organizations are closely supervised to guard against mistakes.
34. There is a lot of group spirit.

35. Most people here seem to be especially considerate of others.
36. Courses, examinations, and readings are frequently revised.
37. Instructors clearly explain the goals and purposes of their courses.

38. When students do not like an administrative decision, they really work to get it changed.
39. Many students try to pattern themselves after people they admire.
40. Student elections generate a lot of intense campaigning and strong feeling.

41. Students and faculty are proud of their tough-mindedness and their resistance to pleaders for special causes.
42. Most students get extremely tense during exam periods.
43. Students put a lot of energy into everything they do – in class and out.

44. When students run a project or put on a show everybody knows about it.
45. Students spend a lot of time planning their careers.
46. Initiations and class rivalries sometimes get a little rough.

47. The school offers many opportunities for students to understand and criticize important works in art, music, and drama.
48. New fads and phrases are continually springing up among the students.
49. Students take a great deal of pride in their personal appearance.

50. There are courses which involve field trips to slum areas, welfare agencies, or similar contact with underprivileged people.

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51. The values most stressed here are open-mindedness and objectivity.
52. Students must have a written excuse for absence from class.
53. The big college events draw a lot of student enthusiasm and support.
54. There are psychology courses which deal in a practical way with personal adjustment and human relations.
55. There would be a capacity audience for a lecture by an outstanding philosopher or theologian.
56. When students get together they seldom talk about science.
57. The college has invested very little in drama and dance.
58. Student gathering places are typically active and noisy.
59. There is a student loan fund which is very helpful for minor emergencies.
60. The school is outstanding for the emphasis and support it gives to pure scholarship and basic research.
61. Students are seldom kept waiting when they have appointments with faculty members.
62. Most courses require intensive study and preparation out of class.
63. Students are expected to play bridge, golf, bowl together, etc., regardless of individual skill.
64. There are many opportunities for students to get together in extra-curricular activities.
65. Most students show a good deal of caution and self-control in their behavior.
66. There are many students from widely different geographic regions.
67. A lot of students who get just passing grades at mid-term really make an effort to earn a higher grade by the end of the term.
68. People here really play to win, not just for the fun of the game.
69. Religious worship here stresses service to God and obedience to His laws.
70. Students are expected to report any violation of rules and regulations.
71. Many students here develop a strong sense of responsibility about their role in contemporary social and political life.
72. The way people feel around here is always pretty evident.
73. Few students here would ever work or play to the point of exhaustion.
74. Students have many opportunities to develop skill in organizing and directing the work of others.
75. Most students would regard mountain-climbing, rugged camping trips, or driving a car all night as pretty pointless.
76. Fire drills are held in student dormitories and residences.
77. A lecture by an outstanding literary critic would be poorly attended.
78. Many informal student activities are unplanned and spontaneous.
79. Poise and sophistication are highly respected by both students and faculty.
80. Most students here would not want pets (dogs, cats, etc.) even if they were allowed to have them.
81. Most faculty members are liberal in interpreting regulations and treat violations with understanding and tolerance.
82. Student papers and reports must be neat.
83. There are lots of dances, parties, and social activities.
84. Many courses stress the speculative or abstract rather than the concrete and tangible.
85. There are many facilities and opportunities for individual creative activity.
86. A lecture by an outstanding scientist would be poorly attended.
87. Student rooms are more likely to be decorated with pennants and pin-ups than with paintings, carvings, mobiles, fabrics, etc.
88. Most students here really enjoy dancing.
89. The person who is always trying to "help out" is likely to be regarded as a nuisance.
90. Most students have very little interest in round tables, panel meetings, or other formal discussions.
91. If a student wants help, he usually has to answer a lot of embarrasing questions.
92. Personality, pull, and bluff get students through many courses.
93. In many courses there are projects or assignments which call for group work.
94. The professors seem to have little time for conversation with students.
95. The faculty and administration are often joked about or criticized in student conversations.
96. Everyone here has pretty much the same attitudes, opinions, and beliefs.
97. Activities in most student organizations are carefully and clearly planned.
98. Channels for expressing students' complaints are readily accessible.
99. Students almost always wait to be called on before speaking in class.
100. Personal rivalries are fairly common.

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101. Boy-girl relationships in this atmosphere tend to be practical and uninvolved, rarely becoming intensely emotional or romantic.
102. There is a lot of excitement and restlessness just before holidays.
103. There are so many things to do here that students are busy all the time.
104. Most students here would not like to dress up for a fancy ball or a masquerade.
105. Most students are more concerned with the present than the future.
106. Many students drive sports cars.
107. Few students are planning post-graduate work in the social sciences.
108. Dormitory raids, water fights and other student pranks would be unthinkable here.
109. Most students here enjoy such activities as dancing, skating, diving, gymnastics.
110. Students often run errands or do other personal services for the faculty.
111. Many students have special good luck charms and practices.
112. Campus architecture and landscaping stress symmetry and order.
113. There is very little studying here over the week-ends.
114. Students are more interested in specialization than in general liberal education.
115. Modern art and music get little attention here.
116. Few students are planning careers in science.
117. This is mainly a meat and potatoes community, with little interest in gourmets or anything unusual.
118. Students spend a lot of time talking about their boy or girl friends.
119. Students here are encouraged to be independent and individualistic.
120. A lot of students like chess, puzzles, double-crostics, and other abstract games.
121. For a period of time freshmen have to take orders from upperclassmen.
122. Students who work hard for high grades are likely to be regarded as odd.
123. In most classes every student can expect to be called on to recite.
124. The school helps everyone get acquainted.
125. Many students seem to expect other people to adapt to them rather than trying to adapt themselves to others.
126. Many students travel or look for jobs in different parts of the country during the summer.
127. Assignments are usually clear and specific, making it easy for students to plan their studies effectively.
128. People around here seem to thrive on difficulty — the tougher things get, the harder they work.
129. In talking with students, faculty members often refer to their colleagues by their first names.
130. The important people at this school expect others to show proper respect for them.
131. There are practically no student organizations actively involved in campus or community affairs.
132. Most students respond to ideas and events in a pretty cool and detached way.
133. There seems to be a lot of interest here in health diets, vitamin pills, anti-histamines, etc.
134. There are a good many colorful and controversial figures on the faculty.
135. Education here tends to make students more practical and realistic.
136. Students are frequently reminded to take preventive measures against illness.
137. A student who insists on analyzing and classifying art and music is likely to be regarded as a little odd.
138. Students often start projects without trying to decide in advance how they will develop or where they may end.
139. Students who are not properly groomed are likely to have this called to their attention.
140. The college regards training people for service to the community as one of its major responsibilities.
141. A well reasoned report can rate an A grade here even though its viewpoint is opposed to the professor's.
142. Professors usually take attendance in class.
143. New jokes and gags get around the campus in a hurry.
144. Family social and financial status may not be talked about but everyone knows who's who.
145. The student newspaper rarely carries articles intended to stimulate discussion of philosophical or ethical matters.
146. Course offerings and faculty in the natural sciences are outstanding.
147. There is a lot of interest here in poetry, music, painting, sculpture, architecture, etc.
148. Bermuda shorts, pin-up pictures, etc., are common on this campus.
149. There is a high degree of respect for nonconformity and intellectual freedom.
150. "Alma Mater" seems to be more important than "subject matter" at this school.

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151. No one is expected to suffer in silence if some regulation happens to create a personal hardship.
152. Examinations here provide a genuine measure of a student's achievement and understanding.
153. Students' mid-term and final grades are reported to parents.
154. Students almost never see the professors except in class.
155. Students occasionally plot some sort of escapade or rebellion.
156. Most students dress and act pretty much alike.
157. Faculty advisers or counselors are pretty practical and efficient in the way they dispatch their business.
158. If a student fails a course he can usually substitute another one for it rather than take it over.
159. A lot of students here will do something even when they know they will be criticized for it.
160. There are no favorites at this school – everyone gets treated alike.
161. Students are actively concerned about national and international affairs.
162. An open display of emotion would embarrass most professors.
163. Students get so absorbed in various activities that they often lose all sense of time or personal comfort.
164. It is easy to obtain student speakers for clubs or meetings.
165. There is little sympathy here for ambitious daydreams about the future.
166. Drinking and late parties are generally tolerated, despite regulations.
167. When students get together they seldom talk about trends in art, music or the theater.
168. There seems to be a jumble of papers and books in most faculty offices.
169. There are no mirrors in any of the public rooms or halls.
170. There is a great deal of borrowing and sharing among the students.
171. Some of the professors react to questions in class as if the students were criticizing them personally.
172. The campus and buildings always look a little unkempt.
173. Everyone has a lot of fun at this school.
174. Many students enjoy working with their hands and are pretty efficient about making or repairing things.
175. Special museums or collections are important possessions of the college.
176. Laboratory facilities in the natural sciences are excellent.
177. The library has paintings and phonograph records which circulate widely among the students.
178. There are several popular spots where a crowd of boys and girls can always be found.
179. Most of the faculty are not interested in students' personal problems.
180. Very few students here prefer to talk about poetry, philosophy, or mathematics as compared with motion pictures, politics, or inventions.
181. Faculty members are impatient with students who interrupt their work.
182. Students set high standards of achievement for themselves.
183. Students quickly learn what is done and not done on this campus.
184. Faculty members rarely or never call students by their first names.
185. When students dislike a faculty member they make it evident to him.
186. There are many foreign students on the campus.
187. In most classes, the presentation of material is well planned and illustrated.
188. Everyone knows the "snap" courses to take and the tough ones to avoid.
189. Professors seem to enjoy breaking down myths and illusions about famous people.
190. Anyone who knows the right people in the faculty or administration can get a better break here.
191. Students are encouraged to take an active part in social reforms or political programs.
192. Graduation is a pretty matter-of-fact, unemotional event.
193. Faculty members put a lot of energy and enthusiasm into their teaching.
194. There is a lot of fanfare and pageantry in many of the college events.
195. Nearly all students expect to achieve future fame or wealth.
196. All undergraduates must live in university approved housing.
197. Humanities courses are often elected by students majoring in other areas.
198. Students who tend to say or do the first thing that occurs to them are likely to have a hard time here.
199. There are definite times each week when dining is made a gracious social event.
200. A good deal of enthusiasm and support is aroused by fund drives for Campus Chest, CARE, Red Cross, refugee aid, etc.

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201. There always seem to be a lot of little quarrels going on.
202. Most student rooms are pretty messy.
203. It's easy to get a group together for card games, singing, going to the movies, etc.
204. The academic atmosphere is practical, emphasizing efficiency and usefulness.
205. Tutorial or honors programs are available for qualified students.
206. A student who spends most of his time in a science laboratory is likely to be regarded as a little odd.
207. There are paintings or statues of nudes on the campus.
208. Students frequently go away for football games, skiing weekends, etc.
209. Students commonly share their problems.
210. Most of the professors are dedicated scholars in their fields.
211. The school administration has little tolerance for student complaints and protests.
212. Standards set by the professors are not particularly hard to achieve.
213. Frequent tests are given in most courses.
214. Students spend a lot of time together at the snack bars, taverns, and in one another's rooms.
215. Students are sometimes noisy and inattentive at concerts or lectures.
216. The history and traditions of the college are strongly emphasized.
217. Most students follow a systematic schedule for studying and recreation.
218. No one gets pushed around at this school without fighting back.
219. Faculty members and administrators see students only during scheduled office hours or by appointment.
220. Students exert considerable pressure on one another to live up to the expected codes of conduct.
221. National elections generate a lot of intense campaigning and strong feeling on the campus.
222. Students here can be wildly happy one minute and hopelessly depressed the next.
223. Many lectures are delivered in a monotone with little inflection or emphasis.
224. Public debates are held frequently.
225. The faculty encourage students to think about exciting and unusual careers.
226. Students rarely get drunk and disorderly.
227. Course offerings and faculty in the social sciences are outstanding.
228. Spontaneous student rallies and demonstrations occur frequently.
229. Proper social forms and manners are important here.
230. Many church and social organizations are especially interested in charities and community services.
231. The faculty tend to be suspicious of students' motives and often make the worst interpretations of even trivial incidents.
232. Classrooms are kept clean and tidy.
233. There isn't much to do here except go to classes and study.
234. The college offers many really practical courses such as typing, report writing, etc.
235. Long, serious intellectual discussions are common among the students.
236. Many of the natural science professors are actively engaged in research.
237. In papers and reports, vivid and novel expressions are usually criticized.
238. Some of the most popular students have a knack for making witty, subtle remarks with a slightly sexy tinge.
239. The professors go out of their way to help you.
240. In class discussions, papers, and exams, the main emphasis is on breadth of understanding, perspective and critical judgment.
241. Students don't argue with the professor; they just admit they are wrong.
242. Learning what is in the text book is enough to pass most courses.
243. The professors regularly check up on the students to make sure that assignments are being carried out properly and on time.
244. Students frequently study or prepare for examinations together.
245. Students pay little attention to rules and regulations.
246. Old grads are always pleased to discover that few things have changed.
247. It is hard to prepare for examinations because students seldom know what will be expected of them.
248. The campus religious program tends to emphasize the importance of acting on personal conviction, rather than the acceptance of tradition.
249. Student publications never lampoon dignified people or institutions.
250. People here are always trying to win an argument.

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251. There are a number of prominent faculty members who play a significant role in national or local politics.
252. Students tend to hide their deeper feelings from each other.
253. Class discussions are typically vigorous and intense.

254. The college tries to avoid advertising and publicity.
255. The future goals for most students emphasize job security, family happiness, and good citizenship.
256. Few students bother with rubbers, hats, or other special protection against the weather.

257. The library is exceptionally well equipped with journals, periodicals, and books in the social sciences.
258. There are frequent informal social gatherings.
259. Society orchestras are more popular here than jazz bands or novelty groups.

260. Chapel services on or near the campus are well attended.
261. The school has an excellent reputation for academic freedom.
262. Campus buildings are clearly marked by signs and directories.

263. Students are very serious and purposeful about their work.
264. Education for leadership is strongly emphasized.
265. Students who are concerned with developing their own personal and private system of values are likely to be regarded as odd.

266. Introductory science or math courses are often elected by students majoring in other areas.
267. To most students here art is something to be studied rather than felt.
268. This college's reputation for marriages is as good as its reputation for education.

269. Students are expected to work out the details of their own program in their own way.
270. Most of the professors are very thorough teachers and really probe into the fundamentals of their subjects.
271. There is a lot of apple-polishing around here.

272. Most courses are a real intellectual challenge.
273. Students have little or no personal privacy.
274. The professors really talk *with* the students, not just *at* them.

275. Students ask permission before deviating from common policies or practices.

276. Most students look for variety and novelty in summer jobs.
277. It is easy to take clear notes in most courses.
278. It is very difficult to get a group decision here without a lot of argument.

279. A controversial speaker always stirs up a lot of student discussion.
280. The student leaders here have lots of special privileges.
281. The expression of strong personal belief or conviction is pretty rare around here.

282. Very few things here arouse much excitement or feeling.
283. The professors really push the students' capacities to the limit.
284. Student parties are colorful and lively.

285. Quite a few faculty members have had varied and unusual careers.
286. Rough games and contact sports are an important part of intramural athletics.
287. In many courses the broad social and historical setting of the material is not discussed.

288. Students frequently do things on the spur of the moment.
289. Students think about dressing appropriately and interestingly for different occasions — classes, social events, sports, and other affairs.
290. This school has a reputation for being very friendly.

291. Many faculty members seem moody and unpredictable.
292. Classes meet only at their regularly scheduled time and place.
293. Every year there are carnivals, parades, and other festive events on the campus.

294. Most students are interested in careers in business, engineering, management, and other practical affairs.
295. There is considerable interest in the analysis of value systems, and the relativity of societies and ethics.
296. There is a lot of interest in the philosophy and methods of science.

297. Concerts and art exhibits always draw big crowds of students.
298. Nearly everyone here has a date for the weekends.
299. Counseling and guidance services are really personal, patient, and extensive.

300. Careful reasoning and clear logic are valued most highly in grading student papers, reports, or discussions.

NAME ______________________________
LAST FIRST MIDDLE
AGE __________ SEX __________
M OR F

INSTITUTION ______________________________ TEST (CIRCLE ONE) AI, CCI, ECCI, HSCI, OCI.

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BE SURE

TO MAKE YOUR MARKS

HEAVY AND BLACK

ERASE COMPLETELY

ANY ANSWERS

YOU WISH TO CHANGE

ACTIVITIES INDEX

DIRECTIONS

1. Fill out all the blanks at the top of this sheet, including the test name.
2. Write your social security number in the boxes in the lower left-hand corner of this sheet, one digit per box, omitting the hyphens. Then, on the line alongside each box fill in the space that corresponds to the number in the box. When you have finished you should have nine spaces filled, one on each line, corresponding to the nine digits of your social security number.
3. Read the instructions on the cover of the INDEX booklet, and then begin.

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Scale Definitions

1. aba *Abasement*--ass *Assurance*: Self-depreciation and self-devaluation as reflected in the ready acknowledgment of inadequacy, ineptitutde, or inferiority, the acceptance of humiliation and other forms of self-degradation *versus* certainty, self-confidence, or self-glorification.

2. ach *Achievement*: Surmounting obstacles and attaining a successful conclusion in order to prove one's worth; striving for success through personal effort.

3. ada *Adaptability*--dfs *Defensiveness*: Accepting criticism, advice or humiliation publicly *versus* resistance to suggestion, guidance, direction, or advice; concealment or justification of failure.

4. aff *Affiliation*: Gregariousness; group-centered friendly, participatory associations with others *versus* social detachment, social independence, self-isolation, unsociableness.

5. agg *Aggression*--bla *Blame Avoidance*: Indifference or disregard for the feelings of others as manifested in hostility, either overt or covert, direct or indirect, *versus* the denial or inhibition of such impulses.

-- ass *Assurance*. See *Abasement*.

-- aut *Autonomy*. See *Supplication*.

-- bla *Blame Avoidance*. See *Aggression*.

6. cha *Change*--sam *Sameness*: Variable or flexible behavior *versus* repetition and routine.

7. cnj *Conjunctivity*--dsj *Disjunctivity*: Organized, purposeful, planned activity patterns *versus* uncoordinated, disorganized, diffuse, or self-indulgent behavior.

8. ctr *Counteraction*: Persistent striving to overcome difficult, frustrating, humiliating, or embarrassing experiences and failures *versus* avoidance or hasty withdrawal from tasks or situations which might result in such outcomes.

-- dfs Defensiveness. See Adaptability.

9. dfr Deference--rst Restiveness: Respect for authority, submission to the opinions and preferences of others perceived as superior versus noncompliance, insubordination, rebelliousness, resistance or defiance.

-- del Deliberation. See Impulsiveness.

-- dsj Disjunctivity. See Conjunctivity.

-- dso Disorder. See Order.

10. dom Dominance--tol Tolerance: Ascendancy over others by means of assertive or manipulative control versus nonintervention, forbearance, acceptance, equalitarianism, permissiveness, humility, or meekness.

11. e/a Ego Achievement (derived from Exocathection-Intraception). Self-dramatizing, idealistic social action; active or fantasied realization of dominance, power, or influence achieved through socio-political activities in the name of social improvement or reform.

-- EI Ego ideal. See Fantasied Achievement.

12. emo Emotionality--plc Placidity: Intense open emotional expression versus stolidness, restraint control or constriction.

-- EnX^n Endocathection-Extraception: Natural Science. See Science.

-- EnX^s Endocathection-Extraception: Social Science and Humanities. See Humanities, Social Science.

-- EnI Endocathection-Intraception. See Reflectiveness.

-- end Endurance. See Energy.

13. eny Energy--pas Passivity (derived from Energy-Endurance--Psychasthenia): Activity level; intense, sustained vigorous effort versus sluggishness or inertia.

14. exh Exhibitionism--inf Inferiority Avoidance: Self-display and attention-seeking versus shyness, embarrassment self-consciousness or withdrawal from situations in which the attention of others might be attracted.

-- ExX Exocathection-Extraception. See Practicalness.

-- Exl Exocathection-Intraception. See Ego Achievement.

15. f/a Fantasied Achievement (derived from Ego Ideal): Daydreams of success in achieving extraordinary public recognition; narcissistic aspirations for fame, personal distinction, or power.

16. har Harm Avoidance--rsk Risktaking: Fearfulness, avoidance, withdrawal or excessive caution in situations which might result in physical pain, injury, illness or death versus careless indifference to danger; challenging or provocative disregard for personal safety; thrill-seeking; boldness, venturesomeness, temerity.

17. hum Humanities, Social Sciences (derived from Endocathection-Extraception: Social Sciences and Humanities): The symbolic manipulation of social objects or artifacts through empirical analysis, reflection discussion and criticism.

-- ipr Impracticalness. See Practicalness.

18. imp Impulsiveness--del Deliberation: Rash, impulsive, spontaneous or impetuous behavior versus care, caution, reflectiveness.

-- inf Inferiority Avoidance. See Exhibitionism. This was at one time defined as the inverse of both Counteraction and Exhibitionism
together. but the composite
interests of simplification .

19. nar Narcissism: Self-centered, vain, egotistical, preoccupation with self; erotic feelings associated with one's own body or personality.

20. nur Nurturance: Supporting others by providing love, assistance, or protection versus disassociation from others; indifferences; withholding support, friendship or affection.

21. obj Objectivity--pro Projectivity: Detached, nonmagical, unprejudiced, impersonal thinking versus autistic, irrational, paranoid, or otherwise egocentric perceptions and beliefs: superstition (Activities Index), suspicion (Environment Indexes).

22. ord Order--dso Disorder: Compulsive organization of the immediate physical environment, manifester in a preoccupation with neatness, orderliness, arrangement, and meticulous attention to detail versus habitual disorder, confusion, disarray, or carelessness.

-- pas Passivity. See Energy.

-- plc Placidity. See Emotionality.

23. ply Play--wrk Work: Pleasure-seeking; sustained pursuit of amusement and entertainment versus persistently purposeful, serious, task-oriented behavior.

24. pra Practicalness--ipr Impracticalness (derived from Exocathection--Extraception and Pragmatism): Useful, tangibly productive, businesslike applications of skill or experience in manual arts, social affairs, or commercial activities versus a speculative, theoretical, whimsical, or indifferent attitude towards

-- pra Pragmatism. See Practicalness.

-- pro Projectivity. See Objectivity.

-- pru Prudishness. See Sexuality.

-- psy Psychasthenia. See Energy.

-- pur Puritanism. See Sensuality.

25. ref Reflectiveness (derived from Endocathection--Intraception): Contemplation, intraception, introspection; preoccupation with private psychological, spiritual, esthetic, or metaphysical experience.

-- rej Rejection. Formerly defined as the inverse of both Affiliation and Nurturance

use, in order to simplify processing.

-- rsk Risktaking. See Harm Avoidance.

-- rst Restiveness. See Deference.

-- sam Sameness. See Change.

26. sci Science (derived from Endocathection-Extraception: Natural Sciences): The symbolic manipulation of physical objects through empirical analysis, reflection, discussion and criticism.

27.	sen	*Sensuality*--pur *Puritanism* (derived from *Sentience*): Sensory stimulation and gratification; voluptuousness, preoccupation with esthetic experience *versus* austerity, self-denial temporance or abstinance, frugality, self-abregation.
--	sen	*Sentience*. See *Sensuality*.
28.	sex	*Sexuality*--pru *Prudishness* (derived from Sex--Superego Conflict). Erotic heterosexual interest or activity *versus* the restraint, denial or inhibition or such impulses; prudishness, priggishness, osceticism.
--	sub	*Submission*. See *Dominance*.
--	suc	*Succorance*. See *Supplication*.
--	s/c	*Superego Conflict*. See *Sexuality*.
29.	sup	*Supplication*--aut *Autonomy*: Dependence on others for love, assistance and protection *versus* detachment, independence, or self-reliance.
--	tol	*Tolerance*. See *Dominance*.
30.	und	*Understanding*: Detached intellectualization; problem-solving, analysis, theorizing or abstraction as ends in themselves.
--	wrk	*Work*. See *Play*.

Stern Activities Index

Per Cent Item Responses-- Normative Sample

Averaged Keyed Response

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Abasement								
1	49.2	21.3	26.0	33.2	48.6	23.4	35.0	32.9
31	74.5	88.7	73.1	74.7	68.0	77.4	73.3	77.4
61	35.6	62.1	45.7	51.2	62.0	53.6	55.5	49.7
91	52.6	57.0	57.8	55.4	55.9	57.9	56.3	54.4
121	20.6	19.0	16.2	18.1	11.8	27.8	19.2	18.8
151	15.6	18.7	11.2	6.6	18.2	20.2	15.0	15.1
181	36.1	54.8	37.7	36.7	49.9	46.6	44.4	43.2
211	57.8	61.2	47.2	45.0	52.9	62.7	53.5	54.9
241	38.4	50.8	32.4	35.1	29.5	43.6	36.0	39.4
271	19.4	13.5	9.7	14.3	18.7	20.7	17.9	15.1
Achievement								
2	80.6	79.5	77.4	82.6	73.2	75.4	77.0	78.6
32	78.7	76.5	77.8	69.3	87.1	47.7	68.0	75.2
62	72.1	72.2	69.2	78.6	77.1	71.2	75.6	72.3
92	59.5	64.3	78.6	86.5	83.2	76.5	82.0	71.1
122	33.0	26.2	38.5	40.4	34.3	27.6	34.1	33.0
152	41.3	29.5	35.8	47.3	38.1	36.4	40.4	36.8
182	78.2	81.5	86.8	85.2	84.0	72.0	80.3	81.7
212	71.6	59.4	59.4	71.4	59.8	63.6	64.9	63.8
242	38.8	41.9	44.9	39.1	47.7	38.6	41.8	41.8
272	57.6	65.0	72.8	74.6	67.6	69.4	70.5	66.5
Adaptiveness								
3	42.1	28.8	39.0	48.1	43.8	45.8	45.8	38.9
33	45.7	38.0	26.9	35.5	31.2	38.6	35.1	36.4
63	64.4	60.4	65.6	66.6	52.0	63.2	60.5	62.7
93	50.6	48.5	40.6	40.0	41.2	56.4	45.8	46.4
123	64.6	66.4	65.5	68.1	66.8	67.6	67.4	66.2
153	36.9	34.9	37.8	33.7	28.7	41.4	34.6	36.0
183	56.9	58.1	44.1	39.7	54.2	50.6	48.1	51.8
213	75.6	79.4	72.8	75.8	72.4	81.5	76.5	76.1
243	65.6	60.3	68.3	65.8	64.6	66.6	65.6	65.0
273	49.7	37.2	48.9	48.4	30.8	54.8	44.6	45.1
Affiliation-Rejection								
4	39.7	60.6	51.2	57.6	71.0	72.8	67.1	54.6
34	50.5	82.8	73.4	78.8	90.6	77.6	82.2	72.2
64	74.3	83.4	82.0	68.0	78.4	83.0	76.4	79.0
94	57.1	78.8	78.0	70.0	73.2	86.0	76.3	72.6
124	34.6	74.3	70.5	59.8	80.2	79.8	73.2	63.2
154	52.1	68.1	69.4	65.3	75.4	73.8	71.4	65.2
184	71.2	84.0	69.2	59.7	68.1	74.6	67.4	73.0
214	38.8	66.4	58.9	67.2	83.7	80.1	76.9	60.2
244	38.1	58.0	56.9	55.1	73.7	58.2	62.3	53.8
274	67.2	78.0	66.0	62.0	68.9	80.0	70.2	70.4

AI Item Responses-(Cont'd)- Sec.2

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Aggression-Blameavoidance								
5	54.8	43.8	69.5	68.4	77.1	59.4	68.2	59.1
35	51.8	36.1	51.4	51.5	42.9	41.6	45.3	46.2
65	43.5	21.1	34.8	45.4	22.1	40.0	35.8	33.8
95	44.4	18.8	35.5	41.3	22.1	27.0	30.1	29.7
125	48.3	56.3	61.0	55.4	55.0	49.4	53.2	54.7
155	17.5	15.1	20.8	22.3	23.4	17.6	21.1	18.6
185	37.1	51.3	43.2	43.8	47.2	44.6	45.2	44.2
215	71.0	45.8	61.8	68.7	51.6	61.6	60.6	59.8
245	19.8	14.3	31.4	26.3	32.9	19.1	26.1	22.9
275	38.3	25.0	34.6	55.5	38.5	28.9	40.9	34.7
Change-Sameness								
6	35.1	23.8	39.4	37.4	47.3	42.7	42.4	35.2
36	69.3	58.9	66.9	66.3	73.2	74.8	71.4	66.6
66	68.3	79.7	66.7	51.8	38.6	74.2	54.8	67.4
96	51.8	30.0	39.0	41.0	41.2	37.3	39.8	40.2
126	78.8	65.7	59.9	69.5	44.1	73.7	63.4	67.0
156	67.3	55.0	63.4	67.0	63.7	66.7	65.7	62.9
186	53.7	41.0	45.0	51.4	48.9	49.9	50.0	49.7
216	56.9	35.0	43.8	39.6	42.9	55.2	45.8	45.4
246	33.3	46.8	32.2	32.5	36.4	34.6	34.5	36.7
276	76.7	73.0	65.0	74.3	64.5	85.3	74.6	72.3
Conjunctivity-Disjunctivity								
7	52.2	75.7	74.6	73.2	67.3	70.6	70.3	68.2
37	64.2	76.7	62.8	56.3	34.7	59.0	50.0	63.4
67	53.8	54.3	59.7	57.0	62.0	56.8	58.5	56.6
97	14.5	49.8	37.7	45.0	40.8	45.2	43.9	36.5
127	49.9	60.9	59.4	55.3	57.6	55.8	56.2	56.6
157	45.8	67.4	63.2	72.7	67.6	64.4	68.2	61.2
187	28.7	34.9	32.0	21.4	26.4	20.8	22.8	29.6
217	39.4	52.9	48.6	53.3	51.2	41.9	48.8	47.4
247	70.4	88.3	79.8	81.8	68.5	84.0	78.0	79.1
277	86.5	86.0	81.9	76.3	78.0	77.6	77.2	82.9
Counteraction-Infavoidance								
8	66.7	69.7	62.6	73.4	69.8	63.9	69.0	67.0
38	68.8	57.1	71.2	73.0	71.0	68.3	70.7	67.2
68	59.4	68.7	59.6	61.3	60.3	63.6	61.7	64.8
98	58.7	50.2	49.5	60.3	53.7	38.2	50.7	52.3
128	43.7	37.1	35.3	47.7	49.9	42.2	46.6	40.6
158	65.3	47.4	67.1	70.6	69.3	70.8	70.2	62.5
188	79.4	74.6	81.0	82.4	75.9	80.8	79.6	78.6
218	70.6	73.8	77.0	73.2	73.7	75.2	74.0	73.8
248	71.0	58.4	64.7	68.3	65.5	77.2	69.3	65.8
278	65.3	50.0	62.2	59.3	68.5	68.4	65.3	60.7

AI Item Responses-(Cont'd)- Sec.3

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Deference								
9	69.1	82.8	67.2	62.9	62.4	82.3	69.1	72.1
39	40.3	56.4	52.8	45.4	72.8	55.4	57.8	51.8
69	77.9	85.0	82.5	86.2	78.9	87.2	84.0	82.4
99	44.7	66.1	56.5	57.0	58.6	58.8	58.1	56.4
129	59.0	80.4	63.8	64.7	80.7	77.8	74.3	69.4
159	74.7	76.9	72.5	82.6	56.4	76.6	71.8	74.0
189	60.5	68.4	56.4	66.4	65.9	75.8	69.3	63.6
219	44.8	56.6	55.2	65.8	67.6	59.5	64.2	55.2
249	58.0	64.5	57.0	67.8	76.8	60.9	68.4	62.0
279	79.0	75.7	68.4	81.5	64.6	72.4	72.8	74.0
Dominance								
10	65.3	64.9	81.1	83.2	68.9	67.4	73.1	71.2
40	73.4	71.7	83.4	83.4	90.9	77.8	83.9	78.1
70	61.0	61.1	70.0	70.2	71.7	58.2	66.6	64.7
100	29.6	25.9	29.6	27.4	30.3	22.6	26.7	28.0
130	37.6	30.1	46.2	54.3	48.1	30.0	44.1	39.5
160	63.4	64.3	73.3	79.5	81.1	78.6	79.6	70.2
190	36.7	17.4	31.3	33.7	27.4	28.7	29.9	28.8
220	77.8	84.0	82.9	82.7	73.6	77.4	77.8	80.6
250	68.4	69.1	80.0	88.5	86.2	76.8	83.7	77.3
280	59.5	60.2	75.0	73.2	67.3	67.7	69.3	66.0
Ego-Achievement								
11	51.7	54.7	51.8	51.0	43.0	47.2	47.0	52.8
41	39.3	27.4	42.2	53.2	43.8	30.9	42.6	37.9
71	57.3	46.5	51.4	44.8	28.6	44.8	78.7	58.5
101	83.7	75.5	75.5	71.3	75.8	79.2	75.4	77.5
131	60.9	74.8	73.5	70.7	54.6	78.2	67.8	69.2
161	70.0	70.6	66.4	58.8	55.9	62.9	76.8	71.0
191	33.3	34.7	39.6	37.9	18.2	23.9	26.6	33.5
221	59.2	65.8	68.7	53.3	52.9	63.6	56.5	62.6
251	61.5	41.3	58.0	43.4	39.8	49.8	44.3	51.3
281	54.9	59.5	67.5	67.6	50.7	57.4	58.5	60.1
Emotionality-Placidity								
12	65.7	50.3	39.6	36.1	10.0	40.8	28.9	46.1
42	21.8	23.2	13.0	2.6	10.4	18.9	10.6	17.2
72	64.8	61.8	62.1	70.6	48.1	62.6	60.4	62.3
102	37.7	17.6	28.1	21.9	26.4	15.2	21.1	26.1
132	28.5	17.5	13.2	6.6	8.6	12.6	9.2	17.1
162	59.9	62.7	40.8	24.7	33.4	46.4	34.8	49.6
192	51.7	51.6	63.0	68.9	74.2	65.4	69.4	58.9
222	63.2	58.6	48.3	34.9	42.0	53.5	43.4	53.4
252	56.2	46.7	45.0	36.6	27.4	50.8	38.2	46.5
282	46.0	37.9	46.1	36.0	37.7	40.0	37.9	42.0

AI Item Responses-(Cont'd)- Sec.4

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Energy-Passivity								
13	70.5	78.6	74.4	87.2	94.9	86.6	89.5	78.2
43	92.9	88.9	96.8	93.6	90.6	90.9	94.6	93.3
73	72.4	51.1	64.2	73.2	68.4	63.2	75.2	65.7
103	43.4	41.1	59.2	54.4	45.6	61.2	53.7	49.4
133	48.6	47.0	41.3	37.9	42.5	46.9	42.4	44.8
163	57.1	49.3	58.9	55.4	52.5	51.2	53.0	54.6
193	37.5	49.3	49.9	42.0	46.4	44.7	44.3	45.2
223	85.5	90.4	87.5	86.8	83.2	84.0	84.6	87.0
253	86.4	70.5	72.3	81.0	69.0	72.8	74.2	75.8
283	76.4	82.7	78.5	88.1	79.7	77.8	81.8	79.8
Exhibitionism-Infavoidance								
14	45.2	51.9	55.0	58.7	71.8	61.6	64.0	54.0
44	30.4	17.7	14.6	21.2	25.2	18.4	21.6	21.1
74	42.5	29.0	48.7	46.4	42.0	58.6	49.0	42.3
104	34.8	46.1	44.6	39.8	41.2	46.6	49.2	43.7
134	39.3	28.0	31.6	32.8	27.7	30.4	30.3	32.3
164	33.6	21.5	18.5	23.6	33.4	25.6	27.5	25.3
194	39.6	39.7	44.4	37.8	40.3	50.0	42.6	41.6
224	43.0	35.0	31.5	37.3	40.8	30.3	36.1	36.4
254	33.7	34.3	40.0	46.8	43.8	42.9	44.4	38.1
284	74.2	30.9	40.0	47.0	57.6	35.9	46.8	48.0
Fantasied Achievement								
15	16.7	7.6	15.3	21.8	11.3	9.6	43.0	20.6
45	20.3	20.4	26.6	21.5	15.2	11.4	16.0	20.8
75	22.8	16.3	21.4	24.6	32.9	19.8	25.7	21.6
105	39.7	32.7	57.9	50.8	41.3	37.4	43.1	43.4
135	5.5	7.7	28.1	31.0	36.9	17.8	28.5	17.4
165	38.5	39.4	51.4	53.8	58.6	36.1	49.4	44.7
195	49.0	54.2	68.8	64.6	72.0	64.9	67.1	59.8
225	67.8	75.5	81.4	83.5	75.9	74.5	77.9	75.6
255	93.2	12.0	12.7	13.6	28.6	8.6	16.9	33.7
285	14.4	14.4	35.1	44.0	59.8	20.3	41.3	26.3
Harmavoidance								
16	65.6	69.8	68.4	67.3	71.5	65.4	68.0	68.0
46	41.7	29.0	41.8	38.9	41.6	42.0	40.8	38.3
76	29.9	37.7	27.2	28.6	18.2	37.4	28.0	30.7
106	52.0	51.8	48.0	32.1	56.0	47.8	45.2	49.2
136	47.1	60.5	56.2	38.7	58.1	58.7	51.8	53.9
166	47.4	58.2	49.2	46.2	56.4	63.1	55.2	52.5
196	71.6	82.7	68.9	45.2	37.2	64.4	48.9	68.0
226	37.2	48.9	45.4	25.1	43.3	41.9	36.7	42.1
256	53.3	65.0	63.6	56.0	55.5	72.4	61.2	60.8
286	27.0	45.5	37.0	37.2	46.4	42.0	41.8	37.8

AI Item Responses-(Cont'd)- Sec.5

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Humanism								
17	87.7	95.4	89.8	89.6	89.7	89.5	89.5	90.6
47	77.0	62.6	38.2	31.2	27.4	48.9	35.8	53.4
77	69.3	59.0	68.8	63.4	62.1	64.6	63.3	65.1
107	79.8	72.9	69.4	76.0	62.4	72.8	70.3	73.1
137	71.3	54.1	58.7	61.3	59.0	61.4	60.5	61.2
167	90.9	41.4	78.4	65.2	60.6	78.1	67.9	69.6
197	74.7	53.3	49.2	47.6	25.2	46.6	39.8	54.2
227	80.3	61.9	52.4	33.0	28.2	45.6	35.6	57.6
257	77.7	60.6	47.4	36.3	25.6	50.8	37.5	55.8
287	76.6	69.4	72.6	69.3	54.6	64.6	62.8	70.4
Impulsion-Deliberation								
18	85.2	92.6	83.9	73.3	66.7	83.8	74.5	84.0
48	52.8	37.9	41.0	32.2	29.9	35.6	32.5	41.0
78	71.0	56.7	71.6	78.8	71.0	66.9	72.2	67.9
108	87.6	81.0	86.5	89.5	87.1	88.6	88.3	85.8
138	84.6	77.0	51.4	78.4	81.5	87.0	82.2	73.8
168	34.6	27.4	19.5	21.0	23.0	21.2	21.7	25.8
198	39.1	28.1	31.3	22.0	34.7	37.4	31.3	32.4
228	69.7	65.3	61.2	62.1	63.7	65.8	63.8	65.0
258	33.2	27.2	20.2	11.2	25.2	25.2	20.5	25.3
288	86.6	25.9	32.4	57.0	79.3	39.7	58.6	50.9
Narcissism								
19	39.7	62.5	59.3	51.6	60.3	60.7	57.5	54.8
49	18.0	10.8	12.2	7.5	20.0	19.4	15.6	14.2
79	30.4	38.8	26.8	28.7	32.5	25.6	28.9	31.2
109	52.8	53.5	58.0	57.3	51.6	58.8	55.8	55.0
139	50.3	64.5	49.0	36.4	64.1	62.6	54.3	54.5
169	63.8	73.7	54.6	56.2	59.0	61.2	58.7	62.7
199	68.2	88.0	71.1	60.9	80.2	77.3	72.7	75.0
229	60.3	66.7	58.7	56.2	61.2	48.2	55.1	60.2
259	26.9	29.4	26.2	25.5	35.1	31.2	30.6	28.3
289	20.9	29.9	27.3	29.2	36.1	27.6	29.3	24.8
Nurturance-Rejection								
20	66.4	75.2	78.0	66.0	78.0	74.2	72.7	73.1
50	81.4	92.6	90.8	72.5	85.4	94.0	83.9	87.2
80	53.7	59.5	47.2	32.6	38.6	51.2	40.8	50.3
110	82.8	88.8	79.0	70.7	80.2	84.8	78.5	82.3
140	69.9	89.9	79.6	72.4	83.2	84.8	80.0	79.8
170	48.0	42.0	43.5	41.0	32.1	49.4	40.8	43.6
200	70.0	87.2	72.7	64.9	59.0	83.4	69.0	74.7
230	79.7	83.4	76.1	60.4	75.4	80.4	72.0	77.8
260	53.6	61.5	48.8	36.2	41.2	43.0	40.1	51.0
290	38.3	25.9	35.4	27.2	39.9	41.0	36.0	33.9

AI Item Responses-(Cont'd)- Sec.6

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Objectivity								
21	88.1	97.6	92.9	96.8	94.5	96.0	95.7	93.6
51	97.2	96.3	97.4	99.1	91.0	97.7	95.8	96.7
81	77.5	76.8	74.9	84.6	71.0	79.0	78.3	76.9
111	76.3	83.0	75.4	86.3	62.0	77.4	75.2	77.5
141	95.8	98.5	54.7	99.1	96.2	96.8	97.3	86.6
171	90.4	95.9	86.2	97.6	86.6	96.3	93.4	91.5
201	68.6	74.2	72.7	72.8	69.3	76.6	72.8	72.1
231	90.1	93.2	94.6	94.2	91.0	94.5	93.1	92.8
261	95.4	97.5	86.9	100.0	90.7	98.2	96.5	94.1
291	85.8	95.0	94.4	98.0	94.5	90.4	94.2	92.4
Order								
22	59.9	67.0	57.1	59.1	62.4	66.2	62.5	61.6
52	55.6	67.5	62.6	55.2	59.8	57.0	57.2	60.7
82	42.0	39.6	36.8	43.2	50.7	37.1	43.6	40.5
112	44.8	63.0	54.0	43.4	57.2	53.5	51.3	53.3
142	36.9	40.7	36.9	31.2	49.0	36.4	38.8	38.3
172	58.0	71.2	58.6	36.3	40.3	56.6	44.4	58.1
202	16.2	35.1	41.4	24.0	53.4	38.6	38.6	32.8
232	48.0	66.7	59.6	50.8	61.1	57.0	56.2	57.6
262	46.8	62.8	60.0	55.2	56.8	61.5	57.8	56.8
292	56.1	70.3	65.3	60.8	49.0	61.0	56.9	62.2
Play								
23	45.7	72.9	74.8	56.7	76.3	72.6	68.5	65.5
53	46.9	37.1	35.9	39.4	58.9	48.2	48.8	42.2
83	28.7	33.9	38.2	36.5	59.4	38.2	44.6	36.4
113	29.3	25.1	25.6	31.3	38.5	34.8	34.8	28.7
143	54.7	61.5	55.6	57.7	67.6	65.2	63.5	58.8
173	74.3	78.6	84.1	79.2	90.6	83.3	84.3	80.3
203	26.7	38.9	31.2	24.8	40.3	39.6	34.6	32.8
233	34.4	46.8	56.6	52.1	66.7	48.8	55.8	48.4
263	26.2	43.8	40.0	33.7	48.5	44.8	42.3	38.1
293	64.7	65.7	61.0	61.7	75.0	64.0	66.8	64.6
Pragmatism								
24	76.3	86.6	81.8	91.0	81.9	86.0	86.2	82.7
54	59.4	58.7	62.4	94.4	69.4	62.4	45.3	56.4
84	38.0	45.8	43.6	38.9	47.3	40.0	42.0	42.4
114	66.1	62.2	57.0	62.0	45.1	76.2	61.0	61.6
144	53.8	44.7	63.3	92.2	60.3	62.8	71.7	58.4
174	47.6	43.6	55.3	74.7	88.8	54.4	72.6	54.8
204	59.7	70.0	56.0	81.6	66.3	71.3	73.0	64.7
234	33.6	47.9	49.3	61.2	74.6	53.0	62.9	48.4
264	48.9	55.5	49.6	36.9	29.5	60.7	42.3	49.1
294	84.0	88.2	94.1	96.4	84.5	94.0	91.5	89.4

AI Item Responses-(Cont'd)- Sec.7

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Reflectiveness								
25	90.0	98.7	95.7	97.9	100.0	92.8	98.1	95.6
55	67.2	47.3	59.8	54.6	42.0	54.0	50.1	56.1
85	58.9	42.8	61.0	78.9	55.9	51.3	62.0	56.2
115	85.3	88.5	81.3	72.3	73.7	81.0	75.6	82.7
145	36.1	41.4	52.1	39.4	40.3	48.0	42.8	43.1
175	75.2	79.1	74.6	63.1	67.2	71.0	67.0	74.0
205	90.0	85.8	89.3	71.0	62.4	84.2	72.5	84.4
235	59.4	46.3	71.4	80.6	65.9	64.1	70.1	61.8
265	66.1	76.9	68.6	68.1	45.9	73.0	62.3	68.5
295	67.9	51.8	37.3	29.7	16.9	38.2	28.2	46.3
Scientism								
26	46.6	33.5	47.9	39.4	23.0	44.0	35.4	40.8
56	39.0	28.4	35.2	57.3	28.2	39.8	41.7	36.1
86	80.9	60.6	80.9	98.1	78.0	77.8	84.5	76.7
116	89.8	32.0	55.2	90.0	65.5	45.8	67.0	61.0
146	61.8	57.7	52.1	65.1	37.3	57.4	53.2	56.2
176	68.1	56.1	72.7	96.0	48.9	65.6	70.0	66.7
206	49.8	22.4	46.2	73.4	22.5	35.4	43.7	40.5
236	67.6	49.9	69.3	89.7	39.4	57.0	62.0	62.2
266	45.8	22.3	48.2	85.9	29.5	39.4	51.5	42.0
296	55.0	48.6	47.9	65.9	30.8	46.3	47.6	49.8
Sentience								
27	82.2	88.5	75.6	81.0	86.2	77.4	81.4	81.9
57	24.0	31.6	18.9	23.7	11.8	19.6	18.3	23.2
87	23.7	21.8	18.6	23.0	31.2	15.0	23.0	21.8
117	40.2	45.5	37.8	42.0	55.4	42.5	46.6	42.5
147	89.7	97.0	88.3	89.8	79.3	93.6	87.5	90.6
177	29.8	39.0	32.4	31.9	43.8	42.2	39.3	35.1
207	71.9	58.0	50.4	54.3	38.6	59.3	50.7	57.8
237	22.8	19.7	20.2	31.7	23.9	20.6	25.4	22.0
267	76.5	61.1	60.6	60.7	39.0	49.9	49.8	62.0
297	43.0	41.8	34.4	29.7	24.2	33.4	29.1	37.1
Sex-Prudery								
28	48.4	66.0	61.3	47.8	52.8	69.9	56.8	58.1
58	43.0	46.9	45.0	34.8	35.1	24.4	31.4	41.6
88	37.1	51.9	37.0	23.6	32.5	37.4	31.1	39.3
118	51.9	61.9	56.4	40.5	28.6	59.8	42.9	53.3
148	68.5	55.2	68.9	71.7	71.9	72.4	71.9	66.1
178	41.5	55.9	41.1	26.2	20.8	48.0	31.6	42.5
208	11.5	12.9	15.4	17.9	19.1	10.4	15.8	13.9
238	44.5	67.9	52.6	37.4	51.6	61.5	50.1	53.8
268	83.5	88.4	87.1	90.4	83.2	89.5	87.6	86.6
298	21.1	35.1	31.1	19.7	25.2	32.4	25.7	28.2

AI Item Responses-(Cont'd)- Sec.8

Item	5 LA Colleges (N=260)	5 Denom. Colleges (N=240)	4 Univ. Colleges (N=272)	3 Engineering (N=107)	2 Bus. Admin. (N=51)	2 Teacher Training (N=146)	Total Tech. Colleges (N=304)	All Schools (N=1076)
Succorance-Autonomy								
29	47.4	73.0	70.9	60.2	63.3	69.8	64.4	63.9
59	5.8	11.2	10.9	7.6	16.5	7.3	10.5	9.6
89	67.8	89.1	80.0	76.2	89.3	83.7	83.0	80.0
119	60.2	77.8	69.0	69.6	63.3	68.9	67.2	68.6
149	76.5	87.8	83.8	89.3	87.1	84.0	86.7	83.7
179	83.7	91.2	85.4	84.1	87.6	85.4	85.6	86.5
209	43.6	44.6	36.9	38.8	37.7	40.2	38.9	41.0
239	48.7	70.7	65.7	67.8	66.3	67.4	67.1	63.1
269	50.3	67.8	62.8	55.3	70.7	72.3	66.0	61.7
299	60.1	76.0	61.8	67.4	61.2	62.4	63.6	65.4
Understanding								
30	92.1	81.2	88.2	95.3	88.8	81.9	88.3	87.4
60	77.3	67.3	67.8	65.0	60.6	67.0	64.1	69.1
90	74.1	55.5	66.0	74.6	47.7	64.4	62.2	64.4
120	67.1	65.6	68.9	67.1	64.6	71.8	67.8	67.4
150	72.0	50.1	67.8	79.8	43.8	61.2	61.5	62.8
180	84.2	85.6	75.6	80.8	62.0	76.5	73.0	79.6
210	93.2	81.3	91.4	94.2	87.1	80.9	87.3	88.3
240	62.1	52.2	70.9	88.2	67.3	58.4	71.2	64.1
270	70.2	31.6	53.2	55.9	25.2	38.6	39.9	48.7
300	77.2	51.4	66.4	69.0	52.5	55.5	58.9	63.5

College Characteristics Index

Per Cent Item Responses-- Normative Sample

Averaged Keyed Response

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Abasement								
1	20.2	54.0	58.2	72.4	92.0	57.3	73.9	51.6
31	27.3	64.1	47.4	11.7	36.0	61.5	36.4	43.8
61	27.6	26.3	34.8	24.6	30.8	48.3	34.6	30.8
91	11.6	10.1	22.2	16.9	40.7	18.1	25.2	17.3
121	12.9	21.9	30.4	34.7	8.6	52.2	31.8	24.2
151	18.5	19.1	32.0	43.4	38.3	29.7	37.1	26.7
181	12.2	12.2	32.5	29.8	39.1	25.8	31.6	22.1
211	14.1	17.1	36.3	48.7	56.0	20.3	41.7	27.3
241	13.2	17.8	17.3	13.3	23.9	15.5	17.6	16.5
271	16.4	36.2	50.6	34.0	53.0	49.6	45.5	37.2
Achievement								
2	41.1	58.6	63.0	88.1	68.2	46.4	67.6	57.6
32	67.5	67.7	58.8	89.1	61.3	49.1	66.5	65.1
62	85.9	74.9	62.7	92.8	57.5	47.8	66.0	72.4
92	74.9	69.0	45.5	68.2	45.3	39.3	50.9	60.1
122	94.9	83.2	77.3	87.1	79.9	79.0	82.0	84.4
152	61.3	61.6	37.3	50.6	35.3	41.8	42.6	50.7
182	85.0	76.2	55.5	77.6	54.3	45.7	59.2	69.0
212	80.3	58.5	44.4	73.8	46.4	37.4	52.5	58.9
242	73.4	50.2	30.0	51.3	39.9	36.9	42.7	49.1
272	81.8	65.0	41.3	76.2	33.0	35.9	48.4	59.1
Adaptiveness								
3	4.3	9.7	63.2	32.1	35.7	49.4	39.1	29.1
33	11.7	51.0	39.2	50.4	55.1	41.2	48.9	37.7
63	18.0	18.5	28.0	13.9	23.3	15.0	17.4	20.5
93	49.6	49.3	51.3	72.7	54.3	78.8	68.6	54.7
123	46.9	57.6	43.4	43.7	51.4	43.8	46.3	48.6
153	39.5	61.9	49.7	76.5	48.1	63.6	62.7	53.5
183	61.2	93.5	89.2	79.1	80.2	76.2	78.5	80.6
213	26.4	74.8	59.8	78.8	58.1	57.4	64.8	56.5
243	24.9	54.6	46.7	60.6	44.7	37.7	47.7	43.5
273	34.4	35.9	28.6	21.2	27.0	11.8	20.0	24.7
Affiliation-Rejection								
4	16.4	53.3	97.7	77.0	97.4	85.7	86.7	63.5
34	23.7	67.8	46.6	48.4	34.4	39.2	40.7	44.7
64	73.6	77.0	88.4	88.4	88.7	82.7	86.6	81.4
94	93.5	89.0	66.9	72.5	67.5	81.3	73.8	80.8
124	66.3	82.9	46.9	40.3	33.2	53.4	42.3	59.6
154	93.4	90.0	44.2	42.9	56.5	67.9	55.8	70.9
184	91.2	90.6	41.4	27.5	26.1	64.8	39.5	65.7
214	74.3	79.4	91.8	68.7	75.5	83.4	75.9	80.4
244	53.8	77.2	82.3	87.6	83.7	76.1	82.4	73.9
274	92.9	86.3	55.5	60.0	48.9	73.4	60.8	73.9

CCI Item Responses-(Cont'd)- Sec.2

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Aggression-Blameavoidance								
5	39.5	31.4	53.4	43.7	54.9	44.7	47.8	43.0
35	59.8	17.1	52.8	59.9	57.8	47.6	55.1	46.2
65	45.9	22.7	25.2	25.6	24.2	20.0	23.3	29.3
95	77.7	66.1	82.8	79.1	78.3	69.3	75.6	75.6
125	57.2	42.6	59.1	46.4	59.2	43.5	49.7	52.2
155	41.6	40.1	53.1	58.0	32.3	20.0	36.8	42.9
185	25.4	11.4	19.2	20.7	25.5	20.2	22.1	19.5
215	17.9	31.4	37.1	22.0	45.3	36.2	34.5	30.2
245	22.9	10.6	20.8	26.4	23.1	18.1	22.5	19.2
275	63.7	22.1	45.8	55.2	43.6	44.0	47.6	44.8
Change-Sameness								
6	63.8	39.0	86.6	92.4	93.2	71.1	85.6	68.8
36	84.0	77.8	59.9	77.6	72.7	67.1	72.5	73.6
66	81.5	65.4	76.5	94.0	71.4	57.4	74.2	74.4
96	84.5	49.9	75.4	82.4	68.0	78.0	76.1	71.5
126	91.9	82.8	75.7	85.0	46.8	43.5	58.4	77.2
156	66.4	13.6	17.6	35.5	23.8	27.9	29.1	31.7
186	58.6	35.9	79.0	87.2	66.6	37.8	63.9	59.4
216	71.9	25.8	70.0	63.6	81.9	73.3	72.9	60.2
246	63.0	58.1	58.6	62.6	51.9	67.8	60.8	60.1
276	84.1	63.4	61.2	46.6	42.3	60.4	49.8	64.6
Conjunctivity-Disjunctivity								
7	73.4	85.2	83.3	82.8	80.2	74.3	79.1	80.2
37	62.4	73.7	51.8	52.8	61.0	55.4	56.4	61.1
67	75.0	79.8	73.3	83.8	78.4	71.8	78.0	76.5
97	40.3	80.1	68.9	68.4	73.7	71.7	71.2	65.1
127	74.8	87.0	75.2	76.0	76.9	63.5	72.1	77.3
157	61.3	73.1	72.8	74.9	75.7	69.2	73.3	70.1
187	87.5	86.8	8.00	76.2	75.0	64.3	71.8	81.5
217	34.4	52.5	32.3	57.8	38.8	32.2	42.9	40.5
247	72.5	81.7	74.7	68.4	72.8	76.9	72.7	75.4
277	78.3	77.4	69.2	61.7	69.2	77.4	69.4	73.6
Counteraction-Infavoidance								
8	63.5	22.0	29.8	22.8	26.1	38.4	29.1	36.1
38	80.5	47.7	38.1	43.9	33.1	38.6	38.5	51.2
68	24.4	53.6	65.9	77.2	74.2	40.0	63.8	51.9
98	87.0	10.3	60.1	57.8	56.2	56.8	56.9	53.6
128	77.8	57.0	39.6	79.0	40.5	41.5	53.7	57.0
158	38.6	60.0	62.1	94.7	90.7	80.1	88.5	62.3
188	60.7	36.9	23.3	32.2	16.9	27.3	25.5	36.6
218	56.9	26.7	34.6	45.8	35.6	29.3	36.9	38.8
248	73.1	59.1	59.7	66.4	53.6	58.3	59.4	62.8
278	63.2	34.2	51.9	52.4	48.9	33.8	45.0	48.6

CCI Item Responses (Cont'd)- Sec.3

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Deference								
9	13.5	58.2	81.6	74.6	63.3	74.3	70.7	56.0
39	41.6	63.6	66.9	58.4	56.7	61.1	58.7	57.7
69	18.5	83.8	70.9	71.8	64.4	59.3	65.2	59.6
99	24.4	48.3	53.1	36.4	55.6	43.5	45.2	42.8
129	45.6	65.9	73.7	79.9	81.7	73.1	78.2	65.9
159	18.8	52.8	53.5	36.1	53.3	48.3	45.9	42.8
189	52.5	65.9	44.9	65.3	58.1	48.8	57.4	55.2
219	15.5	16.7	52.4	51.0	57.2	41.6	49.9	33.6
249	29.4	67.4	28.9	22.2	37.2	39.0	33.0	39.7
279	10.9	21.7	37.8	34.5	49.7	39.4	41.2	27.9
Dominance								
10	59.7	85.0	76.2	62.9	67.5	47.3	59.2	70.0
40	9.6	33.0	31.0	34.5	42.4	33.7	36.9	27.6
70	64.3	70.0	61.8	58.8	31.0	40.5	43.4	59.9
100	29.5	30.9	48.7	34.5	37.0	32.1	34.5	35.9
130	44.4	68.2	73.6	69.4	79.7	66.4	71.8	64.5
160	50.7	57.4	64.4	41.0	66.2	60.1	55.8	57.1
190	22.1	25.4	41.2	30.5	41.3	34.8	35.5	31.1
220	37.5	56.6	47.0	45.3	27.5	28.6	33.8	43.7
250	52.9	34.2	51.7	64.0	50.6	33.5	49.4	47.1
280	10.4	15.4	23.2	18.6	20.0	17.2	18.6	16.9
Ego Achievement								
11	33.4	43.3	63.2	75.6	62.9	72.7	70.4	52.6
41	79.9	81.4	70.8	55.6	57.2	73.9	62.2	73.6
71	75.0	67.2	57.1	51.8	49.8	62.4	54.6	63.5
101	79.9	64.4	67.1	60.3	56.9	62.4	59.9	67.8
131	85.3	92.3	90.8	92.5	85.6	90.2	89.4	89.5
161	66.3	44.0	46.6	56.3	47.9	47.2	50.5	51.9
191	56.6	45.2	44.7	31.0	37.5	52.6	40.4	46.7
221	43.8	23.9	32.2	24.0	30.6	29.8	28.1	32.0
251	36.2	15.4	35.4	41.8	28.4	32.0	34.1	30.3
281	84.9	69.3	56.4	67.6	50.8	66.1	61.5	68.0
Emotionality-Placidity								
12	80.3	80.3	53.7	64.2	61.4	68.7	64.7	69.8
42	59.7	70.3	82.8	76.0	83.0	57.3	72.1	71.2
72	77.3	69.2	62.7	70.0	69.3	59.7	66.3	68.9
102	84.4	92.4	91.9	88.0	81.8	77.9	82.6	87.8
132	65.2	54.6	38.6	40.5	36.9	43.8	40.4	49.7
162	64.8	49.5	41.4	48.9	41.8	61.2	50.6	51.6
192	49.3	68.9	39.0	48.7	51.5	44.7	48.3	51.4
222	76.8	47.9	63.5	61.4	60.5	50.9	57.6	61.5
252	71.0	50.2	45.5	35.2	23.6	53.5	37.4	51.0
282	67.9	61.7	48.2	55.0	44.2	48.1	49.1	56.7

CCI Item Responses (Cont'd)- Sec.4

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Energy-Passivity								
13	67.7	28.6	31.5	38.2	19.4	34.8	30.8	39.6
43	55.7	56.7	36.8	63.7	39.7	37.8	47.1	49.1
73	75.7	59.6	48.4	68.5	53.0	49.0	56.8	60.1
103	72.7	68.8	64.3	85.8	59.7	57.8	67.8	68.4
133	80.8	84.9	81.7	91.2	90.0	88.7	90.0	84.4
163	66.7	44.9	42.0	61.4	40.9	38.9	47.1	50.2
193	91.7	85.5	61.1	71.9	57.4	63.0	64.1	75.6
223	81.4	71.7	44.8	43.9	37.6	61.4	47.6	61.4
253	66.6	40.8	29.1	47.5	43.7	37.9	43.0	44.9
283	57.7	41.7	33.1	72.7	30.7	21.7	41.7	43.6
Exhibitionism-Infavoidance								
14	71.9	40.2	46.0	39.8	61.1	56.5	52.5	52.6
44	60.0	70.0	51.9	53.8	46.2	50.4	50.1	58.0
74	65.7	77.1	70.5	67.4	60.3	76.7	68.1	70.4
104	38.5	57.7	53.8	56.3	47.3	47.0	50.2	50.0
134	80.7	57.5	72.8	75.4	67.4	65.6	69.4	70.1
164	56.1	56.2	53.1	57.4	52.5	51.4	53.8	54.8
194	13.8	38.5	52.1	57.9	43.2	41.8	47.6	38.0
224	24.9	11.2	18.4	28.0	13.4	27.9	23.1	19.4
254	80.0	79.4	71.4	62.9	63.9	75.4	67.4	74.6
284	58.7	69.9	74.4	80.3	71.4	68.0	73.2	69.1
Fantasied Achievement								
15	67.9	53.0	68.9	68.2	67.0	70.3	68.5	64.6
45	41.5	55.4	44.7	47.1	34.5	55.6	45.7	46.8
75	63.5	57.0	48.7	62.6	41.9	59.8	54.8	56.0
105	51.0	53.4	38.6	44.2	36.9	60.0	47.0	47.5
135	56.7	25.8	21.2	23.9	19.7	15.5	19.7	30.9
165	83.3	73.3	62.4	66.4	48.6	72.7	62.6	70.4
195	22.8	27.1	41.2	56.0	48.0	16.6	40.2	32.8
225	50.9	22.1	25.7	28.4	22.0	20.8	23.7	30.6
255	37.4	15.4	14.3	14.7	13.6	7.4	11.9	19.8
285	84.5	55.8	75.2	83.5	75.1	69.8	76.1	72.9
Harmavoidance								
16	46.9	35.6	9.8	3.7	17.9	31.9	17.8	27.5
46	90.1	75.4	69.7	53.3	76.8	80.4	70.2	76.4
76	92.3	85.6	82.2	30.8	55.3	49.2	45.1	76.3
106	85.9	84.3	43.4	56.1	66.3	73.6	65.3	69.7
136	25.3	63.1	47.4	37.1	30.9	45.2	37.7	43.4
166	51.6	81.8	43.7	40.5	47.0	47.0	44.8	55.5
196	65.9	70.1	39.2	19.6	25.2	44.1	29.6	51.2
226	67.4	63.5	40.9	45.4	54.1	58.2	52.6	56.1
256	37.9	52.0	57.6	55.8	50.7	44.0	50.2	49.4
286	77.4	64.6	48.1	34.6	33.1	67.3	45.0	58.8

CCI Item Responses (Cont'd)- Sec.5

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Humanism								
17	76.1	50.0	73.3	64.2	79.2	59.6	67.7	66.8
47	85.1	54.1	59.2	48.6	40.8	59.2	49.5	62.0
77	90.4	64.3	51.1	46.9	34.3	55.2	45.5	62.8
107	76.2	38.9	40.3	31.2	18.8	40.0	30.0	46.4
137	88.2	72.7	57.6	59.3	54.6	72.0	62.0	70.1
167	75.3	32.2	24.0	24.7	17.9	42.6	28.4	40.0
197	89.9	66.3	71.9	66.9	49.1	51.7	55.9	71.0
227	77.6	50.3	58.7	53.0	54.4	50.0	52.5	59.8
257	73.3	72.2	86.0	69.5	89.7	74.0	77.7	77.3
287	82.3	72.9	54.9	41.0	43.5	61.6	48.7	64.7
Impulsion-Deliberation								
18	74.7	67.0	59.7	57.2	61.6	81.6	66.8	67.1
48	38.8	52.2	71.8	60.3	66.4	53.4	60.3	55.8
78	65.1	41.2	44.9	43.8	36.7	33.2	37.8	47.3
108	63.9	63.9	79.3	83.4	57.3	51.0	63.9	67.8
138	45.2	26.2	47.2	40.4	44.0	35.7	40.0	39.7
168	75.8	54.3	72.7	75.9	67.6	77.8	73.8	69.2
198	67.9	40.0	42.8	41.9	46.5	58.2	48.9	49.9
228	10.2	13.0	16.6	23.7	15.6	17.4	18.9	14.7
258	67.1	71.3	72.9	69.3	62.9	75.4	69.2	70.1
288	94.0	61.5	79.9	86.0	86.9	66.7	79.8	78.8
Narcissism								
19	38.9	64.5	75.3	69.0	60.3	83.9	71.1	62.4
49	18.5	74.0	66.9	40.6	49.6	56.5	48.9	52.1
79	46.5	53.5	63.9	46.8	47.0	46.8	46.9	52.7
109	48.8	78.5	74.3	85.5	74.2	80.5	80.1	70.4
139	18.1	56.4	34.7	17.4	24.0	21.7	21.0	32.6
169	45.1	61.9	65.1	63.6	62.6	65.9	64.0	59.0
199	42.6	53.1	23.5	44.8	18.0	17.8	26.9	36.5
229	28.6	72.9	62.5	34.6	36.9	35.1	35.5	49.9
259	28.2	36.1	21.4	19.6	11.6	11.2	14.1	25.0
289	34.9	83.5	74.4	57.2	66.2	67.5	63.6	64.1
Nurturance-Rejection								
20	58.9	84.2	52.4	49.5	36.5	60.2	48.7	61.1
50	55.1	63.1	65.7	29.2	52.0	70.8	50.7	58.7
80	60.7	59.3	55.8	40.0	57.7	86.8	61.5	59.3
110	45.5	63.9	25.5	20.3	15.9	47.9	28.0	40.7
140	60.0	81.6	65.7	44.4	56.4	83.7	61.5	67.2
170	78.2	82.4	79.5	73.1	65.7	72.5	70.4	77.6
200	25.0	33.8	24.6	34.0	20.2	27.5	27.2	27.7
230	34.0	81.6	71.6	71.2	58.6	57.9	62.6	62.5
260	19.6	83.6	61.3	64.5	48.5	36.9	50.0	53.6
290	64.8	94.0	62.4	13.0	52.8	75.2	47.0	67.1

CCI Item Responses (Cont'd)- Sec.6

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Objectivity								
21	81.6	54.0	57.9	72.0	57.1	61.6	63.6	64.3
51	83.6	62.4	60.9	65.0	52.6	67.9	61.8	67.2
81	83.1	74.8	79.6	67.0	76.7	88.5	77.4	78.7
111	92.6	90.1	82.9	89.2	86.4	87.3	87.6	88.3
141	91.1	80.5	78.1	75.5	70.1	75.2	73.6	80.8
171	77.2	71.7	51.6	56.3	47.9	55.0	53.1	63.4
201	68.3	78.8	68.5	70.1	76.9	82.5	76.5	73.0
231	90.8	80.5	77.7	73.6	64.7	88.8	75.7	81.2
261	90.6	56.9	57.2	73.8	48.6	60.3	60.9	66.4
291	80.8	81.8	71.5	62.5	67.8	75.7	68.7	75.7
Order								
22	12.9	59.3	65.5	64.9	99.3	51.8	72.0	52.4
52	12.2	47.6	22.8	16.2	17.8	4.9	13.0	23.9
82	85.1	94.0	89.2	93.5	90.5	89.6	91.2	89.9
112	48.9	71.6	66.1	58.2	62.0	64.6	61.6	62.0
142	32.2	93.6	71.7	47.3	83.0	89.4	73.2	67.7
172	85.3	87.0	78.7	87.8	86.4	88.2	87.4	84.6
202	53.7	68.6	46.6	42.8	50.4	66.4	53.2	55.5
232	91.7	92.9	83.3	81.4	85.5	81.8	82.9	87.7
262	36.4	43.5	68.9	60.4	69.6	50.9	60.3	52.3
292	34.7	73.9	86.9	79.7	90.3	68.9	79.6	68.8
Play								
23	18.8	51.6	52.9	75.6	62.3	46.4	61.4	46.2
53	31.0	67.2	57.1	71.0	61.0	48.8	60.3	53.9
83	17.3	39.8	78.8	72.1	72.7	74.6	73.1	52.2
113	12.8	21.8	43.2	6.0	35.7	36.4	26.0	26.0
143	56.0	88.6	81.7	75.2	72.3	67.3	71.6	74.5
173	35.6	62.8	55.2	19.6	34.2	50.4	34.7	47.1
203	67.5	76.5	83.9	63.6	64.1	75.1	67.6	73.9
233	65.3	71.3	83.4	74.4	73.1	77.0	74.8	73.7
263	16.8	25.8	44.7	16.3	44.7	43.0	34.7	30.5
293	21.7	35.3	81.2	68.4	72.9	76.2	72.5	52.7
Pragmatism								
24	6.9	30.2	54.7	28.5	50.6	21.4	33.5	31.3
54	65.4	84.6	88.9	81.0	78.2	78.2	79.1	79.5
84	15.3	46.4	37.5	38.3	52.1	49.2	46.5	36.4
114	16.9	38.6	73.5	74.8	78.1	76.2	76.4	51.4
144	34.7	48.7	40.7	22.6	34.7	23.4	26.9	37.8
174	51.5	61.1	59.8	79.0	53.5	66.3	66.3	59.7
204	39.2	73.5	67.2	78.6	65.8	75.9	73.4	63.3
234	11.6	36.9	75.4	56.1	73.4	54.5	61.3	46.3
264	49.1	74.0	51.3	57.7	58.1	53.7	56.5	57.7
294	14.8	44.5	76.5	93.5	95.7	50.2	79.8	53.9

CCI Item Responses (Cont'd)- Sec.7

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Reflectiveness								
25	55.2	39.1	27.1	20.4	13.8	38.0	24.1	36.4
55	76.2	54.0	23.1	35.9	18.1	41.8	31.9	46.3
85	83.6	61.3	63.0	67.9	59.5	70.0	65.8	68.4
115	89.6	62.8	56.8	47.7	41.3	72.1	53.7	65.7
145	70.1	51.9	56.6	67.3	50.0	60.1	59.1	59.4
175	42.3	59.9	61.0	46.4	45.4	46.6	46.1	52.3
205	87.6	67.0	82.1	83.2	79.7	71.0	78.0	78.7
235	84.6	45.2	39.5	52.2	21.6	39.8	37.9	51.8
265	72.3	76.3	73.4	76.7	71.9	76.1	74.9	74.2
295	86.9	61.2	39.5	49.0	38.3	45.4	44.2	58.0
Scientism								
26	61.1	68.5	87.6	96.8	88.8	78.4	88.0	76.3
56	48.6	37.7	45.3	83.4	21.8	43.8	49.7	45.3
86	76.4	63.3	61.6	85.0	45.5	67.8	66.1	66.8
116	80.4	62.9	68.4	98.2	84.1	69.1	83.8	73.9
146	57.4	59.7	63.9	80.6	56.7	42.3	59.9	60.2
176	44.9	48.0	65.4	80.8	74.6	38.0	64.5	55.7
206	90.1	74.8	63.4	78.4	60.7	72.1	70.4	74.7
236	79.3	49.0	87.6	90.2	77.2	62.9	76.8	73.2
266	64.9	44.6	43.3	55.7	43.2	40.2	46.4	49.8
296	67.1	40.8	40.4	64.4	28.8	41.6	44.9	48.3
Sentience								
27	74.1	32.8	21.3	10.2	14.2	49.0	24.5	38.2
57	73.3	46.2	57.1	54.4	43.7	61.7	53.3	57.5
87	85.2	52.4	29.8	22.2	25.1	47.3	31.5	49.7
117	79.3	48.8	47.6	66.6	44.0	45.0	51.9	56.9
147	85.5	21.2	38.6	35.1	25.0	53.5	37.9	45.8
177	54.4	30.2	22.9	40.9	28.2	38.1	35.7	35.8
207	54.4	13.6	29.0	23.4	22.7	36.5	27.5	31.1
237	87.0	78.2	75.4	62.7	61.9	83.6	69.4	77.5
267	69.3	44.9	34.9	48.6	38.3	58.3	48.4	49.4
297	70.2	38.6	33.5	30.6	10.8	33.1	24.8	41.8
Sex-Prudery								
28	50.2	53.8	88.8	57.4	49.3	79.2	62.0	63.7
58	65.1	86.4	90.5	84.1	94.1	93.0	90.4	83.1
88	62.0	65.6	82.3	73.4	79.6	73.4	75.4	71.3
118	50.0	69.9	73.5	47.0	51.9	59.7	5.29	61.6
148	51.0	42.2	86.2	83.1	60.8	68.8	70.9	62.6
178	53.0	61.8	91.9	78.2	83.2	89.3	83.6	72.6
208	58.3	50.0	72.3	63.8	56.5	49.6	56.6	59.3
238	33.1	30.9	55.4	50.2	58.2	35.9	48.1	41.9
268	43.9	58.9	52.7	39.2	43.4	46.6	43.1	49.7
298	26.8	20.2	53.9	17.6	51.3	30.7	33.2	33.5

CCI Item Responses (Cont'd)- Sec.8

Item	7 LA Colleges (N=460)	8 Denom. Colleges (N=397)	7 Univ. Colleges (N=543)	4 Engineering (N=240)	3 Bus. Admin. (N=156)	3 Teacher Training (N=197)	10 Tech. Colleges (N=593)	All Schools (N=1993)
Succorance-Autonomy								
29	52.8	79.1	87.1	88.5	86.7	83.7	86.3	76.3
59	63.2	60.6	78.6	88.2	81.9	92.2	87.4	72.4
89	60.8	12.2	61.5	61.1	70.7	71.6	67.8	50.6
119	22.3	41.1	47.1	35.9	42.7	37.7	38.8	37.3
149	10.8	59.1	57.2	32.5	61.2	49.4	47.7	43.7
179	80.3	84.9	53.9	50.9	51.1	66.4	56.1	68.8
209	85.2	90.9	81.4	79.5	68.0	81.2	76.2	83.4
239	82.8	86.4	49.3	46.8	37.7	52.9	45.8	66.1
269	29.8	56.4	44.4	36.0	51.7	45.6	44.4	43.8
299	58.1	68.8	60.3	47.1	51.7	53.5	50.8	59.5
Understanding								
30	62.4	44.8	34.4	40.0	10.4	28.0	26.1	78.0
60	65.7	49.4	54.7	72.2	51.3	27.5	50.3	55.0
90	74.7	52.6	35.9	40.8	34.2	47.9	41.0	51.0
120	56.6	39.4	44.8	69.3	48.6	49.2	55.7	49.1
150	94.8	87.7	83.9	93.1	86.2	88.7	89.3	88.9
180	78.6	43.1	25.9	42.4	26.5	49.8	39.6	46.8
210	90.8	90.4	82.7	82.6	65.8	74.4	74.2	84.5
240	94.9	84.7	79.7	73.4	70.1	75.0	72.8	83.0
270	90.3	79.7	72.5	75.6	65.9	48.3	63.3	76.5
300	91.2	79.9	73.8	80.6	64.5	67.0	70.7	78.9

Activities Index, College Upper Division Level

Individual Norms

	Male Student Bodies (N=558) at 17 Schools		Female Student Bodies (N=518) at 15 Schools	
	$\bar{X}$	σ	$\bar{X}$	σ
Scale				
1. Aba-Ass	3.8817	1.9180	4.2838	1.7783
2. Ach	6.4749	2.4189	5.8456	2.3369
3. Ada-Dfs	5.2760	2.3175	5.2471	2.3325
4. Aff	6.4695	2.8262	7.1023	2.5291
5. Agg-Bla	4.7975	2.3717	3.2683	2.1270
6. Cha-Sam	5.3262	2.2573	5.5714	2.3045
7. Cnj-Dsj	5.7903	2.3442	5.7529	2.3244
8. Ctr	6.5394	2.2989	6.0521	2.3383
9. Dfr-Rst	6.3244	2.0628	6.9537	1.9353
10. Dom-Tol	6.6846	2.3145	5.3475	2.5168
11. E/A	5.9122	2.7932	5.2336	2.6980
12. Emo-Plc	3.4677	1.8258	5.1255	2.1067
13. Eng-Pas	6.7509	1.7184	6.6988	1.6874
14. Exh-Inf	3.9409	2.6125	3.6197	2.6391
15. F/A	4.0430	2.3896	2.5734	1.8773
16. Har-Rsk	4.4068	2.4071	5.4884	2.3917
17. Hum	6.2384	2.6953	7.2471	2.4971
18. Inf-Del	5.3297	1.9669	5.9903	2.0416
19. Nar	4.0824	2.2949	5.2201	2.2510
20. Nur	6.0573	2.3688	7.0521	2.1563
21. Obj-Pro	8.9731	1.3924	8.9208	1.2732
22. Ord-Dis	4.7776	3.0512	5.5116	2.7525
23. Ply-Wrk	4.9785	2.4579	5.1371	2.3400
24. Pra-Ipr	6.5125	2.2829	5.8089	2.4314
25. Ref	6.7330	2.2316	6.6467	2.0750
26. Sci	6.3763	3.0355	4.2143	3.0239
27. Sen-Pru	4.5215	1.8962	5.1236	1.7503
28. Sex-Pru	4.1004	2.3414	5.8398	2.5055
29. Suc-Aut	5.8495	2.0589	6.7046	2.1151
30. Und	7.1810	2.3534	6.6274	2.3368
Factors				
1. Self-Assertion	20.5806	7.6451	16.7741	7.1471
2. Audacity-Timidity	20.8100	6.2995	14.5676	5.7613
3. Intellectual Interests	26.5287	7.7323	24.7355	7.3794
4. Motivation	26.9462	6.6806	25.2239	6.4769
5. Applied Interests	17.6667	5.8945	15.5347	5.7449
6. Orderliness	19.9122	6.9183	19.7027	6.8203
7. Submissivieness	21.5394	6.0337	23.5367	5.6889
8. Closeness	22.3315	5.9162	26.5502	5.8197
9. Sensuousness	12.7043	4.8286	16.1834	4.8996
10. Friendliness	11.4480	4.4409	12.2394	4.0810
11. Expressiveness-Constraint	16.8387	5.9957	20.5753	6.3858
12. Egoism-Diffidence	9.1523	4.4942	8.8726	3.9540
Area				
1. Achievement Orientation	112.5323	24.9082	96.8359	23.3377
2. Dependency Needs	144.6487	21.4867	151.3089	21.3666
3. Emotional Expression	93.0556	24.3581	101.1950	23,0117
4. Educability	112.5932	22.8474	108.7336	20.7442

Activities Index, College Upper Division Level

Institutional Norms

	Male Student Bodies (N=558) at 17 Schools		Female Student Bodies (N=518) at 15 Schools	
	$\bar{X}$[a]	σ	$\bar{X}$	σ
Scale				
1. Aba-Ass	3.9929	0.5159	4.2420	0.5287
2. Ach	6.5671	0.6506	5.9080	0.5293
3. Ada-Dfs	5.2465	0.5599	5.2093	0.4851
4. Aff	6.7682	1.0741	6.8300	1.1343
5. Agg-Bla	4.6776	0.6929	3.3307	0.6620
6. Cha-Sam	5.1147	0.7801	5.6187	0.8496
7. Cnj-Dsj	6.0035	0.9229	5.7247	0.8287
8. Ctr	6.5747	0.5890	6.0860	0.5287
9. Dfr-Rst	6.5012	0.8201	6.8320	0.6958
10. Dom-Tol	6.6071	0.7164	5.3187	0.6360
11. E/A	5.9912	0.7922	5.2107	0.6305
12. Emo-Plc	3.3112	0.4328	5.0907	0.6402
13. Eng-Pas	6.7341	0.3387	6.7747	0.4980
14. Exh-Inf	3.9741	0.6172	3.6080	0.6968
15. F/A	3.9500	0.5969	2.5140	0.4546
16. Har-Rsk	4.4688	0.5945	5.4400	0.7909
17. Hum	6.2606	0.9367	7.2033	1.1457
18. Inf-Del	5.2582	0.6273	5.9887	0.8222
19. Nar	4.1906	0.6487	5.0927	0.6735
20. Nur	6.2682	0.8679	6.8747	0.7266
21. Obj-Pro	8.9547	0.4302	8.8873	0.3294
22. Ord-Dis	5.1024	1.0946	5.4280	0.9917
23. Ply-Wrk	4.9959	0.6788	4.8813	0.7591
24. Pra-Ipr	6.6565	0.8386	5.7367	0.5699
25. Ref	6.7035	0.5703	6.7340	0.5787
26. Sci	6.3165	1.3312	4.2980	0.9746
27. Sen-Pru	4.4235	0.6103	5.0840	0.5079
28. Sex-Pru	4.1847	0.4371	5.5873	0.9596
29. Suc-Aut	5.9571	0.5466	6.5120	0.8168
30. Und	7.2059	0.6691	6.7607	0.9637
Factor				
1. Self-Assertion	20.5223	1.5785	16.6513	1.9927
2. Audacity-Timidity	20.4788	1.7279	14.7027	2.2114
3. Intelectual Interests	26.4864	3.0482	24.9960	3.2051
4. Motivation	27.0817	1.7012	25.5293	2.2698
5. Applied Interests	18.0753	2.4308	15.4627	1.4115
6. Orderliness	20.7329	3.0421	19.5453	3.1157
7. Submissiveness	22.0088	2.0897	23.1580	2.0255
8. Closeness	22.9112	1.9649	25.8060	2.6324
9. Sensucusness	12.7988	1.1492	15.7640	1.7893
10. Friendliness	11.7641	1.3801	11.7113	1.8509
11. Expressiveness-Constraint	16.7312	0.9832	20.2747	2.3049
12. Egoism-Diffidence	9.1859	1.2662	8.7193	1.0142
Area				
1. Intellectual Climate	112.6412	7.3657	97.3420	7.7830
2. Dependency Needs	147.3359	6.5268	150.2753	8.4022
3. Emotional Expression	93.9135	2.9644	98.9267	6.9018
4. Educability	114.3853	7.0813	108.6913	7.5076

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[a] The scale means and standard deviations may differ slightly from the value used in the construction of the Scale Score Profile charts due to small differences in sampling composition.

College Characteristics Index

Individual Norms

	X	σ
Scale		
1. Aba-Ass	3.1168	2.0832
2. Ach	6.2041	2.6384
3. Ada-Dfs	4.6337	1.9537
4. Aff	6.8944	1.9128
5. Agg-Bla	4.1005	2.2480
6. Cha-Sam	6.5291	1.9421
7. Cnj-Dsj	7.0587	2.2615
8. Ctr	5.1536	1.8125
9. Dfr-Rst	4.9352	2.0265
10. Dom-Tol	4.6923	1.9900
11. E/A	5.7393	2.0258
12. Emo-Plc	6.1372	1.9378
13. Eng-Pas	5.6612	2.2776
14. Exh-Inf	5.5908	1.9820
15. F/A	4.7230	1.7409
16. Har-Rsk	5.4883	2.1012
17. Hum	6.1663	2.4034
18. Inf-Del	5.6388	1.8553
19. Nar	5.1148	2.3285
20. Nur	5.6980	2.1709
21. Obj-Pro	7.2974	2.1138
22. Ord-Dis	6.5235	1.8293
23. Ply-Wrk	5.4041	2.3532
24. Pra-Ipr	5.2515	2.1387
25. Ref	5.9005	2.4245
26. Sci	6.3046	2.3440
27. Sen-Pru	4.7138	2.4953
28. Sex-Pru	6.1255	2.1397
29. Suc-Aut	6.0770	1.7646
30. Und	6.4434	2.2474
Factor		
1. Aspiration Level	22.8490	5.6608
2. Intellectual Climate	27.9469	9.2412
3. Student Dignity	19.4883	4.9390
4. Academic Climate	12.4709	4.1651
5. Academic Achievement	30.5209	8.3653
6. Self-Expression	23.1286	6.0988
7. Group Life	23.3031	5.6911
8. Academic Organization	33.8929	7.7806
9. Social Form	25.5429	7.4901
10. Play-Work	21.6801	6.1467
11. Vocational Climate	26.6301	7.4344
Area		
1. Intellectual Climate	178.0944	38.7585
2. Non-Intellectual Climate	154.1776	27.2319
3. Carnival Atmosphere	47.7872	10.5461

College Characteristics Index
Institutional Norms
32 Schools (N=1,993)

	$\bar{X}$	σ
Scale		
1. Aba-Ass	3.0222	1.0127
2. Ach	6.2838	1.4944
3. Ada-Dfs	4.6416	1.0812
4. Aff	6.9353	1.0107
5. Agg-Bla	3.9966	1.2179
6. Cha-Sam	6.4075	1.1785
7. Cnj-Dsj	7.1288	0.8712
8. Ctr	5.1372	0.8010
9. Dfr-Rst	4.8909	1.3275
10. Dom-Tol	4.5925	0.8248
11. E/A	5.6563	0.7994
12. Emo-Plc	6.1741	0.8331
13. Eng-Pas	5.7569	1.2324
14. Exh-Inf	5.5559	0.6528
15. F/A	4.7459	0.6831
16. Har-Rsk	5.5481	1.6049
17. Hum	6.1563	1.5010
18. Inf-Del	5.6025	0.8325
19. Nar	5.0231	1.4916
20. Nur	5.7603	1.2936
21. Obj-Pro	7.3588	0.9262
22. Ord-Dis	6.5453	1.1678
23. Ply-Wrk	5.3425	1.5505
24. Pra-Ipr	5.2909	1.4415
25. Ref	5.9403	1.4229
26. Sci	6.2906	1.3612
27. Sen-Pru	4.7875	1.7067
28. Sex-Pru	5.9850	1.3172
29. Suc-Aut	6.1434	0.8216
30. Und	6.5372	1.2333
Factor		
1. Aspiration Level	22.9502	3.2614
2. Intellectual Climate	28.1414	5.9961
3. Student Dignity	19.7558	2.5150
4. Academic Climate	12.4196	2.4549
5. Academic Achievement	30.9073	4.6450
6. Self-Expression	23.2017	2.5427
7. Group Life	23.6054	3.6014
8. Academic Organization	33.9525	5.4789
9. Social Form	25.3824	5.2070
10. Play-Work	21.2604	4.2462
11. Vocational Climates	26.7092	6.0142
Area		
1. Intellectual Climate	179.2825	27.6530
2. Non-Intellectual Climate	154.1210	19.1612
3. Carnival Atmosphere	47.7850	7.3254

AI x CCI Culture Norms -- Group and Individual

		45 Male Student Bodies (1850 AI, 2239 CCI)								32 Female Student Bodies (1247 AI, 1279 CCI)					
				Components[a]						Components					
		Factor		AI		CCI		Factor		AI		CCI	
		$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ
1.	Expressive	92.6701	8.4247	70.6053	6.4188	22.0648	2.0059	103.0710	12.1637	78.5298	9.2675	24.5412	2.8962
2.	Intellectual	185.5022	20.1406	44.9657	4.8821	140.5365	15.2585	192.2584	28.2265	46.6034	6.8421	145.6550	21.3844
3.	Protective	222.0694	17.3142	121.6052	9.4813	100.4642	7.8329	246.6611	21.8148	135.0716	11.9458	111.5895	9.8690
4.	Vocational	59.5680	5.5708	34.7460	3.2494	24.8220	2.3214	53.2287	7.5222	31.0483	4.3877	22.1804	3.1345
5.	Collegiate	138.8917	15.5415	28.7367	3.2155	110.1550	12.3260	131.5541	18.7188	27.2185	3.8729	104.3356	14.8459

		557 Male Students (18 Student Bodies)								519 Female Students (18 Student Bodies)					
				Components						Components					
		Factor		AI		CCI		Factor		AI		CCI	
		$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ
1.	Expressive	99.1652	19.2022	75.5540	14.6302	23.6112	4.5720	109.9923	20.5453	83.8031	15.6535	26.1892	4.8918
2.	Intellectual	194.3806	39.2068	47.1179	9.5037	147.2627	29.7031	197.4547	41.1962	47.8630	9.9860	145.5917	31.2102
3.	Protective	218.3232	30.5904	119.5538	16.7513	98.7694	13.8391	247.1137	32.9551	135.3195	18.0462	111.7942	14.9089
4.	Vocational	57.0808	13.7394	33.2952	8.0142	23.7856	5.7252	50.3295	13.0990	29.3572	7.6406	20.9723	5.4584
5.	Collegiate	137.3519	23.0186	28.4181	4.7625	108.9338	18.2561	124.3141	22.4291	25.7206	4.6406	98.5935	17.7885

[a] These values are hypothetical, representing the theoretical proportions of the AI and CCI loadings on each factor. Factor 4, for example, is represented by three loadings: AI 1, 12 and CCI 11. The two AI input factors are based on 40 and 30 items respectively; CCI 11 is made up of 50. The maximum possible score then is 120, 7/12 of which is attributable to the AI, 5/12 to the CCI.

Activities Index

Standard Score Means--College Upper Division Male Groups[a]

Normed Against College Upper Division Individual Men (Appendix F)

$\overline{X} = 0, \sigma = 2$

	LA (N=112)	Demom (N=38)	Univ (N=173)	Engr (N=157)	B.Adm. (N=51)	Educ (N=77)
Scale						
1. Aba-Ass	.19	.54	- .29	- .18	.27	.48
2. Ach	- .12	.24	.08	.22	.02	- .03
3. Ada-Dfs	.31	- .26	- .18	- .02	- .45	.55
4. Aff	- .79	.98	.06	- .02	.81	.60
5. Agg-Bla	.07	- .49	.26	.04	- .55	- .26
6. Cha-Sam	.17	-1.25	- .04	- .05	- .26	.44
7. Cnj-Dsj	- .55	1.41	.20	.12	- .26	- .05
8. Ctr	- .03	.13	- .15	.10	0	.24
9. Dfr-Rst	- .33	.67	- .40	.46	.44	.62
10. Dom-Tol	.01	- .39	.19	.04	- .19	- .25
11. E/A	.37	.70	.19	- .31	- .95	- .09
12. Emo-Plc	.42	- .52	- .23	- .14	- .32	- .29
13. Eng-Pas	- .39	- .25	.26	.31	- .11	- .08
14. Exh-Inf	- .03	.18	- .31	- .03	.26	.39
15. F/A	- .49	- .32	.27	.05	.41	- .45
16. Har-Rsk	- .01	- .04	.10	- .21	.34	.28
17. Hum	.95	.28	- .12	- .41	-1.04	.18
18. Inf-Del	.64	- .78	- .21	- .10	.30	- .12
19. Nar	- .32	.50	0	- .05	.85	.24
20. Nur	.10	.89	.16	- .51	- .01	.48
21. Obj-Pro	.20	.27	- .02	.48	- .69	- .91
22. Ord-Dis	- .18	.93	.18	- .10	.37	.11
23. Ply-Wrk	- .40	- .43	.15	- .22	1.03	.37
24. Pra-Ipr	- .01	.03	- .18	.65	- .03	.43
25. Ref	.48	.03	.21	- .17	- .92	- .24
26. Sci	.52	- .65	- .05	.81	-1.59	.35
27. Sen-Pru	.29	.08	- .15	- .53	- .20	- .15
28. Sex-Pru	- .30	.27	.20	.02	.14	.09
29. Suc-Aut	- .64	.58	.07	.31	.57	- .20
30. Und	.52	- .26	.10	.42	-1.00	- .05
Factor						
1. Self-Assertion	- .02	.10	.10	- .10	- .19	- .12
2. Audacity-Timidity	.09	- .60	.13	.50	- .95	- .21
3. Intellectual Interests	.83	- .22	.03	.25	-1.55	.11
4. Motivation	.03	- .02	.08	.35	- .37	.03
5. Applied Interests	.17	.16	0	.62	- .64	.40
6. Orderliness	- .51	1.52	.22	.04	.07	- .08
7. Submissiveness	.10	.65	- .24	- .11	.06	.76
8. Closeness	- .42	.90	.03	.07	.40	.37
9. Sensuousness	- .18	.40	.04	- .22	.39	- .13
10. Friendliness	- .72	.39	.12	- .13	1.08	.59
11. Expressiveness-Constraint	.21	- .23	- .19	- .08	.17	.07
12. Egoism-Diffidence	- .49	0	.15	- .15	.87	- .08
Area						
1. Achievement Orientation	.32	- .16	.10	.41	-1.03	.05
2. Dependency Needs	-2.15	-1.12	-2.09	-2.02	-2.16	-1.72
3. Emotional Expression	- .32	.35	.05	- .13	.51	.14
4. Educability	.21	.59	.04	.33	- .76	.33

[a] This is the College Norm Sample subdivided by school types.

Activities Index

Standard Score Means--College Upper Division Female Groups[a]

Normed Against College Upper Division Individual Women (Appendix F)

$\overline{X} = 0, \sigma = 2$

	LA (N=148)	Denom (N=202)	Univ (N=99)	Educ (N=69)
Scale				
1. Aba-Ass	-.32	.22	-.13	.10
2. Ach	.33	-.18	.23	-.30
3. Ada-Dfs	-.05	-.02	-.17	.20
4. Aff	-1.28	.10	.36	.80
5. Agg-Bla	.59	-.43	-.02	.08
6. Cha-Sam	.52	-.48	-.11	.38
7. Cnj-Dsj	-.61	.48	.07	.07
8. Ctr	.22	-.31	.31	-.02
9. Dfr-Rst	-.91	.38	.07	.26
10. Dom-Tol	-.05	-.28	.51	-.13
11. E/A	.23	-.23	.06	-.21
12. Emo-Plc	.43	-.48	.02	-.18
13. Eng-Pas	.35	-.24	.20	.10
14. Exh-Inf	.15	-.24	.14	-.04
15. F/A	-.16	-.18	.38	-.17
16. Har-Rsk	-.64	.32	.08	.39
17. Hum	.79	-.50	-.02	-.93
18. Inf-Del	.93	-.63	-.34	-.25
19. Nar	-.49	.04	.04	.20
20. Nur	-.71	.16	.04	.08
21. Obj-Pro	-.44	.22	-.10	.31
22. Ord-Dis	-.62	.26	.34	-.07
23. Ply-Wrk	-.82	-.04	.12	.34
24. Pra-Ipr	-.44	.18	.07	.09
25. Ref	.22	-.04	.27	-.22
26. Sci	.80	-.27	-.22	-.59
27. Sen-Pru	.19	-.06	-.08	-.54
28. Sex-Pru	-.67	-.28	.40	.27
29. Suc-Aut	-1.07	.35	.12	.29
30. Und	.81	-.49	.45	-.61
Factor				
1. Self-Assertion	.08	-.32	.35	-.18
2. Audacity-Timidity	.85	-.50	-.03	-.50
3. Intellectual Interests	.91	-.45	.12	-.81
4. Motivation	.58	-.42	.41	-.31
5. Applied Interests	-.06	.06	.08	-.30
6. Orderliness	-.91	.62	.30	-.06
7. Submissiveness	-.70	.25	-.07	.23
8. Closeness	-1.24	.19	.25	.34
9. Sensuousness	-.50	-.14	.19	.04
10. Friendliness	-1.26	.04	.29	.69
11. Expressiveness-Constraint	.24	-.57	.11	-.05
12. Egoism-Diffidence	-.21	-.13	.23	-.07
Area				
1. Achievement Orientation	.67	-.46	.27	-.60
2. Dependency Needs	-3.24	-1.88	-2.45	-2.36
3. Emotional Expression	-.59	-.26	.34	.13
4. Educability	-.00	-.00	.27	-.43

[a] This is the College Norm Sample subdivided by school types.

Activities Index

Standard Score Means--College Upper Division Male Student Bodies[a]

Normed Against College Upper Division Male Student Bodies (Appendix F)

$\bar{X} = 0, \sigma = 2$

	3 LA (N=112)	3 Denom (N=38)	4 Univ (N=173)	3 Engr (N=107)	3 B.Adm (N=51)	2 Educ (N=77)
Scale						
1. Aba-Ass	0.30	1.50	-1.33	-0.94	0.58	1.29
2. Ach	-0.72	0.62	0.04	0.54	-0.19	-0.38
3. Ada-Dfs	1.46	-0.88	-0.52	0.11	-1.60	2.42
4. Aff	-2.12	2.08	-0.10	-0.30	1.64	1.16
5. Agg-Bla	0.46	-1.59	1.14	0.39	-1.84	-0.76
6. Cha-Sam	1.32	-2.68	0.72	0.69	0.09	2.07
7. Cnj-Dsj	-2.24	3.01	-0.24	-0.43	-1.46	-0.91
8. Ctr	-0.11	0.58	-0.65	0.46	0.00	1.08
9. Dfr-Rst	-0.82	1.44	-0.97	0.96	0.91	1.31
10. Dom-Tol	2.95	1.66	3.49	3.02	2.30	2.10
11. E/A	0.42	1.67	-0.29	-2.22	-4.71	-1.39
12. Emo-Plc	2.30	-1.65	-0.40	-0.04	-0.75	-0.66
13. Eng-Pas	-1.85	-1.03	1.83	2.14	-0.27	-0.11
14. Exh-Inf	0.01	0.93	-1.13	0.01	1.23	1.77
15. F/A	-1.50	-0.83	1.64	0.73	2.22	-1.38
16. Har-Rsk	-0.10	-0.22	0.34	-0.90	1.26	1.02
17. Hum	2.25	0.21	-1.04	-1.89	-3.84	-0.09
18. Inf-Del	2.17	-1.95	-0.30	0.02	1.17	-0.04
19. Nar	-1.38	1.56	-0.25	-0.39	2.80	-1.06
20. Nur	-0.49	1.68	-0.31	-2.16	-0.79	0.58
21. Obj-Pro	0.47	0.74	-0.41	1.58	-3.02	-3.91
22. Ord-Dis	-1.23	1.88	-0.22	-1.01	0.29	-0.44
23. Ply-Wrk	-0.83	-0.93	0.99	-0.26	3.91	1.73
24. Pra-Ipr	-0.09	0.01	-0.52	1.62	-0.15	1.04
25. Ref	1.56	-0.47	0.34	-1.38	-4.69	-1.70
26. Sci	1.29	-1.51	-0.07	1.99	-3.74	0.88
27. Sen-Pru	1.04	0.33	-0.46	-1.73	-0.63	-0.46
28. Sex-Pru	-1.97	1.10	0.73	-0.28	0.36	0.09
29. Suc-Aut	-2.59	2.03	0.08	1.00	1.99	-0.95
30. Und	1.53	-1.26	0.03	1.17	-3.98	-0.53
Factor						
1. Self-Assertion	-0.04	0.55	0.58	-0.40	-0.84	-0.50
2. Audacity-Timidity	0.72	-1.82	0.87	2.22	-3.07	-0.38
3. Intellectual Interests	2.13	-0.54	0.10	0.67	-3.91	0.31
4. Motivation	-0.04	-0.25	0.15	1.20	-1.62	-0.03
5. Applied Interests	0.07	0.05	-0.34	1.16	-1.88	0.63
6. Orderliness	-1.69	2.91	-0.04	-0.45	-0.37	-0.72
7. Submissiveness	-0.15	1.43	-1.13	-0.76	-0.28	1.75
8. Closeness	-1.85	2.13	-0.50	-0.38	0.62	0.53
9. Sensuousness	-0.94	1.53	0.00	-1.09	1.48	-0.71
10. Friendliness	-2.79	0.79	-0.06	-0.89	3.02	1.43
11. Expressiveness-Constraint	1.48	-1.18	-0.96	-0.29	1.24	0.67
12. Egoism-Diffidence	-1.78	-0.04	0.46	-0.58	3.02	-0.34
Area						
1. Intellectual Climate	1.06	-0.57	0.29	1.37	-3.51	0.14
2. Non-Intellectual Climate	-7.90	-4.52	-7.71	-7.48	-7.94	-6.50
3. Carnival Atmosphere	-3.18	2.26	-0.17	-1.64	3.65	0.55
4. Educability	0.16	1.40	-0.39	0.55	-2.96	0.55

[a] This is the College Norm Sample subdivided by school types.

Activities Index

Standard Score Means--College Upper Division Female Student Bodies[a]
Normed Against College Upper Division Female Student Bodies (Appendix F)
$\overline{X} = 0, \sigma = 2$

	5 LA (N=148)	5 Denom (N=202)	3 Univ (N=99)	2 Educ (N=69)
Scale				
1. Aba-Ass	-0.94	0.86	-0.29	0.46
2. Ach	1.26	-1.07	0.79	-1.59
3. Ada-Dfs	-0.13	0.01	-0.68	1.12
4. Aff	-1.54	0.63	1.04	1.73
5. Agg-Bla	1.73	-1.59	-0.27	0.05
6. Cha-Sam	1.26	-1.35	-0.39	0.90
7. Cni-Dsj	-1.62	1.38	0.27	0.24
8. Ctr	0.83	-1.47	1.22	0.21
9. Dfr-Rst	-2.06	1.37	0.53	1.05
10. Dom-Tol	-0.10	-0.97	2.04	-0.39
11. E/A	1.10	-0.91	0.32	-0.82
12. Emo-Plc	1.54	-1.48	0.19	-0.47
13. Eng-Pas	0.91	-1.11	0.42	0.04
14. Exh-Inf	0.62	-0.86	0.55	-0.10
15. F/A	-0.42	-0.55	1.93	-0.50
16. Har-Rsk	-1.74	1.05	0.37	1.25
17. Hum	2.09	-1.13	0.07	-2.22
18. Inf-Del	2.62	-1.74	-0.94	-0.66
19. Nar	-1.14	0.50	0.47	0.96
20. Nur	-1.49	0.91	0.56	0.69
21. Obj-Pro	-1.01	0.80	-0.06	1.06
22. Ord-Dis	-1.45	0.85	1.06	0.00
23. Ply-Wrk	-1.58	0.53	0.97	1.55
24. Pra-Ipr	-1.59	1.02	0.53	0.65
25. Ref	0.51	-0.51	0.70	-1.15
26. Sci	2.62	-1.10	-0.90	-2.18
27. Sen-Pru	0.91	-0.04	-0.15	-1.92
28. Sex-Pru	-0.96	-0.10	1.36	1.09
29. Suc-Aut	-1.89	1.19	0.70	1.06
30. Und	1.87	-1.62	0.90	-1.95
Factor				
1. Self-Assertion	0.42	-1.02	1.38	-0.53
2. Audacity-Timidity	2.10	-1.41	-0.21	-1.42
3. Intellectual Interests	1.94	-1.20	0.11	-2.03
4. Motivation	1.38	-1.45	0.89	-1.15
5. Applied Interests	-0.13	0.34	0.41	-1.14
6. Orderliness	-1.90	1.45	0.77	-0.03
7. Submissiveness	-1.59	1.08	0.17	1.03
8. Closeness	-2.19	0.99	1.12	1.32
9. Sensuousness	-0.90	0.07	0.99	0.57
10. Friendliness	-2.22	0.66	1.22	2.08
11. Expressiveness-Constraint	0.92	-1.31	0.57	0.13
12. Egoism-Diffidence	-0.53	-0.22	1.20	0.02
Area				
1. Intellectual Climate	1.89	-1.52	0.68	-1.92
2. Non-Intellectual Climate	-7.99	-4.53	-5.99	-5.76
3. Carnival Atmosphere	-1.31	-0.19	1.78	1.10
4. Educability	0.01	0.01	0.76	-1.16

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[a] This is the College Norm Sample subdivided by school types.

College Characteristics Index
Group Standard Score Means
Normed Against College Upper Division Individual Students

	7 LA (N=460)	8 Denom (N=397)	7 Univ (N=543)	4 Engr (N=240)	3 B.Adm (N=156)	3 Educ (N=197)
Scale						
1. Aba-Ass	-1.32	0.01	0.63	0.10	1.06	0.72
2. Ach	1.04	0.14	-0.80	0.98	-0.81	-1.19
3. Ada-Dfs	-1.34	0.63	0.46	0.76	0.11	0.13
4. Aff	0.03	1.13	-0.40	-0.68	-0.82	0.39
5. Agg-Bla	0.27	-0.90	0.32	0.10	0.36	-0.36
6. Cha-Sam	0.84	-1.44	0.06	0.86	-0.30	-0.40
7. Cnj-Dsj	-0.03	0.64	-0.26	0.20	-0.10	-0.50
8. Ctr	1.11	-0.66	-0.56	0.57	-0.31	-0.57
9. Dfr-Rst	-2.07	0.86	0.79	0.50	0.90	0.40
10. Dom-Tol	-0.82	0.29	0.80	-0.01	-0.05	-0.57
11. E/A	0.55	-0.32	-0.19	-0.07	-0.65	0.24
12. Emo-Plc	0.85	0.36	-0.53	-0.24	-0.62	-0.62
13. Eng-Pas	1.37	-0.15	-0.91	0.71	-0.88	-0.82
14. Exh-Inf	0.02	-0.08	-0.04	0.37	-0.35	0.05
15. F/A	0.91	-0.57	-0.33	0.40	-0.74	-0.27
16. Har-Rsk	1.01	1.37	-0.86	-1.62	-0.94	-0.18
17. Hum	1.65	-0.49	-0.46	-0.56	-1.15	-0.61
18. Inf-Del	0.34	-0.88	0.30	0.17	-0.18	-0.15
19. Nar	-1.18	1.27	0.49	0.02	-0.50	-0.18
20. Nur	-0.39	1.56	-0.17	-0.73	-0.97	0.29
21. Obj-Pro	1.03	-0.16	-0.60	-0.18	-0.83	0.10
22. Ord-Dis	-1.71	1.23	0.57	-0.11	0.86	0.07
23. Ply-Wrk	-1.64	0.20	1.01	0.11	0.51	0.57
24. Pra-Ipr	-2.10	0.36	0.88	0.93	1.04	0.52
25. Ref	1.62	-0.38	-0.70	-0.17	-1.24	-0.43
26. Sci	0.44	-0.65	-0.28	1.60	-0.47	-0.58
27. Sen-Pru	2.08	-0.74	-0.94	-0.44	-1.18	-0.05
28. Sex-Pru	-1.16	-0.49	1.22	0.08	0.20	0.26
29. Suc-Aut	-0.72	0.99	0.05	-0.26	-0.08	0.30
30. Und.	1.35	-0.17	-0.71	0.42	-1.13	-0.76
Factor						
1. Aspiration Level	1.46	-0.95	-0.54	0.77	-0.88	-0.71
2. Intellectual Climate	1.91	-0.58	-0.79	-0.13	-1.36	-0.52
3. Student Dignity	1.33	-0.19	-0.84	-0.11	-0.78	-0.03
4. Academic Climate	1.20	-0.65	-0.42	0.58	-0.93	-0.68
5. Academic Achievement	1.30	-0.01	-0.88	0.79	-0.89	-1.06
6. Self-Expression	0.97	-0.07	-0.58	0.28	-0.85	-0.41
7. Group Life	-0.82	1.50	-0.03	-0.33	-0.63	0.38
8. Academic Organization	-1.46	1.55	0.25	0.10	0.20	0.06
9. Social Form	-1.56	1.15	0.75	0.02	-0.26	0.09
10. Play-Work	-1.29	-0.83	1.19	0.68	0.53	0.32
11. Vocational Climate	-2.64	1.05	1.05	0.72	1.18	0.33
Area						
1. Intellectual Climate	2.11	-0.45	-1.09	0.10	-1.29	-0.71
2. Non-Intellectual Climate	-1.81	1.16	0.70	0.38	0.10	0.19
3. Carnival Atmosphere	0.33	-1.63	0.51	0.32	0.16	0.14

College Characteristics Index

Group Standard Score Means

Normed Against College Upper Division Student Bodies

	7 LA (N=460)	8 Denom (N=397)	7 Univ (N=543)	4 Engr (N=240)	3 B.Adm (N=156)	3 Educ (N=197)
Scale						
1. Aba-Ass	-2.72	-0.40	1.16	0.52	2.27	1.53
2. Ach	1.58	0.45	-1.46	1.68	-1.42	-2.23
3. Ada-Dfs	-2.76	1.04	0.72	1.15	0.05	0.14
4. Aff	-0.28	2.24	-0.89	-1.73	-1.62	0.50
5. Agg-Bla	0.94	-1.80	0.55	0.53	-0.17	-0.46
6. Cha-Sam	1.84	-2.32	0.49	1.74	-0.35	-0.30
7. Cnj-Dsj	-0.60	1.47	-0.57	-0.17	-0.25	-1.45
8. Ctr	2.78	-1.02	-1.20	1.40	-0.63	-1.57
9. Dfr-Rst	-3.30	0.90	1.44	0.62	1.48	0.52
10. Dom-Tol	-1.92	0.50	1.74	-0.01	0.07	-1.38
11. E/A	1.51	-0.65	0.17	-0.55	-1.47	0.64
12. Emo-Plc	1.88	0.72	-1.04	-0.70	-1.50	-1.57
13. Eng-Pas	2.28	0.11	-1.77	1.11	-1.68	-1.40
14. Exh-Inf	-0.09	-0.09	0.41	0.62	-0.89	0.22
15. F/A	2.64	-1.03	-0.70	1.06	-1.97	-1.03
16. Har-Rsk	1.08	1.74	-1.07	-2.42	-1.22	-0.09
17. Hum	2.67	-0.55	-0.42	0.04	-1.70	-0.70
18. Inf-Del	1.03	-1.54	1.03	0.52	-0.33	-0.24
19. Nar	-2.04	1.73	0.58	-0.93	-0.68	-0.23
20. Nur	1.03	2.37	-0.12	-1.73	-1.73	0.42
21. Obj-Pro	2.31	-0.06	-1.10	-0.68	-1.88	0.11
22. Ord-Dis	-2.83	1.36	0.69	-0.34	2.06	0.02
23. Ply-Wrk	-2.57	0.03	1.61	0.10	0.73	0.79
24. Pra-Ipr	-3.12	0.21	1.16	1.13	1.56	0.53
25. Ref	2.66	-0.24	-0.69	-0.79	-1.97	-0.45
26. Sci	0.66	-1.20	-0.27	2.74	-0.69	-1.11
27. Sen-Pru	2.96	-0.57	-1.21	-0.93	-1.82	0.34
28. Sex-Pru	-1.61	-0.86	2.10	0.05	0.46	0.41
29. Suc-Aut	-1.95	2.02	0.12	-0.94	-0.12	0.42
30. Und	2.38	-0.04	-1.11	0.55	-2.17	-1.49
Factor						
1. Aspiration Level	2.29	-1.44	-0.75	1.21	-1.57	-1.31
2. Intellectual Climate	2.90	-0.77	-0.92	-0.52	-2.14	-0.59
3. Student Dignity	2.39	-0.19	-1.48	-0.48	-1.62	-0.18
4. Academic Climate	1.91	-1.27	-0.27	-0.77	-1.47	-1.05
5. Academic Achievement	2.04	-3.51	-1.58	1.16	-1.63	-2.06
6. Self-Expression	2.17	-0.21	-1.03	-0.24	-2.05	-0.91
7. Group Life	-1.26	2.20	-0.08	-1.04	-1.12	0.38
8. Academic Organization	-1.95	2.07	0.15	-0.27	0.35	0.02
9. Social Form	-2.04	1.51	1.08	-0.30	-0.33	0.09
10. Play-Work	-1.64	-0.92	1.94	1.11	0.87	0.48
11. Vocational Climate	-3.16	1.25	1.11	0.75	1.48	0.16
Area						
1. Intellectual Climate	2.91	-0.20	-1.37	-0.04	-1.83	-0.91
2. Non-Intellectual Climate	-2.81	1.31	1.00	0.17	0.18	0.09
3. Carnival Atmosphere	0.74	-2.16	0.77	0.71	0.12	0.15

AI x CCI Standard Score Means by School, Type and Sex

$\overline{X} = 0, \ \sigma = 2$

	Males (43 Male Student Bodies)						Females (29 Female Student Bodies			
Cultures (AIxCCI)	Ind. L.A.	Engin.	Tchr. Trg.	Denom	Univ	Bus Ad	Ind. L.A.	Tchr. Trg.	Denom	Univ L.A.
1. Expressive	1.7	-0.5	-0.2	-1.4	0.7	1.7	1.8	-0.2	-1.4	0.2
2. Intellectual	3.3	0.4	-0.2	-0.2	-0.9	-2.0	2.6	-1.3	-0.8	-1.1
3. Protective	-1.7	-0.7	2.0	1.7	-1.0	-1.1	-2.5	0.9	1.4	-0.6
4. Vocational	-3.5	0.0	-0.1	0.2	0.9	1.8	-2.7	1.4	0.7	1.1
5. Collegiate	-1.5	-0.4	0.8	-0.8	0.7	1.5	-1.5	1.6	-1.2	1.6
Need Component (AI)										
1. Expressive	-0.2	-2.1	0.3	-1.3	-1.3	3.0	0.6	0.7	-0.7	1.2
2. Intellectual	5.1	3.6	3.9	3.0	3.4	1.6	2.8	-0.1	0.4	1.7
3. Protective	-1.8	-1.8	0.3	0.5	-1.9	-1.5	-3.2	0.6	1.1	-0.3
4. Vocational	-5.0	-2.9	-3.1	-2.7	-1.9	-0.3	-2.3	-1.3	-2.6	-1.4
5. Collegiate	1.0	2.0	2.4	2.1	3.0	4.7	0.6	2.2	0.7	2.1
Press Component (CCI)										
1. Expressive	7.8	-1.6	-1.7	-1.8	-2.4	-2.5	5.7	-3.3	-3.4	-2.8
2. Intellectual	2.7	-0.7	-1.5	-1.3	-2.2	-3.2	2.6	-1.7	-1.2	-1.9
3. Protective	-1.6	0.5	4.0	3.2	0.2	-0.5	-3.4	1.1	1.8	-0.9
4. Vocational	-4.1	4.1	4.1	4.2	4.8	4.8	-3.2	5.1	5.2	4.7
5. Collegiate	-2.2	-1.1	0.4	-1.6	0.1	0.7	-2.0	1.5	-1.6	1.5

Matrix of Intercorrelations Between AI and CCI Scale Scores for 1076 Students

AI Need Scale Scores	CCI Press Scale Scores																												
	Aba	Ach	Ada	Aff	Agg	Cha	Cnj	Ctr	Dfr	Dom	E/A	Emo	Eny	Exh	F/A	Har	Hum	Imp	Nar	Nur	Obj	Ord	Ply	Pra	Ref	Sci	Sen	Sex	Suc	Und
Aba	-05	14	13	10	-16	03	13	07	01	04	09	12	12	11	02	14	13	-01	13	22	11	12	02	05	16	12	07	-04	07	10
Ach	-03	10	08	04	03	08	09	18	-07	06	03	00	16	10	13	-05	10	08	01	03	08	02	02	06	08	15	04	04	01	15
Ada	-09	10	03	09	-12	05	10	06	-06	-09	10	01	07	08	04	06	15	-03	01	08	18	01	03	-01	12	13	10	-04	05	10
Aff	11	-03	22	18	-17	-10	09	-09	20	13	04	14	-08	10	-11	04	-09	00	24	22	-02	22	22	23	-10	-05	-17	16	22	-09
Agg	11	-13	04	-12	29	08	-18	06	-08	08	-02	-11	-03	00	06	-21	-07	17	-11	-11	-17	-11	03	05	-07	04	-02	15	-15	-03
Cha	08	-09	-03	-04	12	07	-13	05	-12	04	01	02	-02	03	-04	04	00	10	-05	-03	-07	-10	02	-07	-05	-06	03	05	-04	-05
Cnj	-03	15	15	07	-19	-07	19	03	13	04	-01	02	09	08	00	08	03	-12	17	15	06	17	06	15	05	10	-05	-01	09	09
Ctr	-04	06	06	06	01	11	08	12	-09	00	10	05	15	12	10	-04	10	07	-03	05	07	00	04	06	07	14	08	05	04	11
Dfr	-07	14	16	20	-27	-07	20	01	12	03	03	14	04	13	-06	14	06	-09	20	22	16	20	11	14	06	05	00	-02	19	06
Dom	05	-07	04	-03	13	03	-06	04	01	10	02	-07	-02	07	03	-15	-03	12	-01	-05	-08	-02	08	08	-06	05	-07	12	-01	-04
E/A	02	-02	02	01	05	03	-01	05	-03	01	14	04	09	14	06	01	08	10	00	05	-01	-02	05	01	07	07	01	03	01	01
Emo	05	-05	-01	01	03	00	-01	00	-04	06	18	26	18	20	03	07	09	07	03	08	-05	-04	02	-09	07	-08	06	08	00	-02
Eny	02	02	04	02	01	04	01	02	-02	04	15	10	17	17	04	-03	08	05	04	02	-01	02	11	10	07	09	03	02	02	02
Exh	07	-06	09	01	10	01	-04	04	02	10	14	15	12	21	04	-07	02	14	05	04	-11	01	10	05	01	02	00	11	06	-02
F/A	12	-11	12	-09	18	00	-09	03	09	12	-06	-08	-08	01	01	-18	-08	15	02	-04	-16	03	09	15	-12	04	-13	16	-05	-09
Har	-05	03	04	06	-17	09	08	-02	09	00	-03	05	-02	-08	-06	16	-05	-12	06	12	09	08	00	04	00	-08	-04	-05	09	00
Hum	-17	16	-05	08	-09	02	10	18	-17	-05	08	09	18	05	12	24	30	-02	01	08	14	-10	-12	-24	21	13	22	-15	01	21
Imp	-06	-02	-09	01	11	10	-04	09	-18	07	08	06	10	07	12	02	13	14	-11	02	-01	-14	-07	-15	12	03	16	03	-07	09
Nar	09	-03	13	08	-03	-12	05	-01	15	19	-02	15	-01	05	-02	08	-04	00	14	15	-09	16	08	11	-07	-12	-08	11	09	-05
Nur	-04	14	15	20	-22	-05	15	04	06	10	06	13	08	08	03	22	14	-05	15	30	10	14	06	04	12	07	04	01	16	12
Obj	-06	03	-04	07	-03	04	06	-01	-05	-08	04	-04	-02	00	-01	-02	03	-01	02	-01	06	-03	05	-05	01	08	-03	-02	03	01
Ord	06	04	19	08	-16	-09	13	-02	15	13	02	15	07	12	-07	13	-01	-10	14	17	-03	20	05	16	00	00	06	00	12	-01
Ply	13	-14	08	00	04	-07	-08	-17	10	10	-03	04	-15	-04	-10	-06	-12	09	06	05	-13	09	12	08	-15	-11	-15	15	03	-17
Pra	03	09	13	08	-04	03	06	06	05	07	05	00	05	07	00	01	01	00	01	14	02	04	07	16	06	17	03	00	06	08
Ref	-02	03	-02	00	04	02	01	08	-04	05	04	01	07	06	11	03	09	07	04	03	02	-03	02	-06	08	04	08	01	01	07
Sci	-12	16	-06	-03	07	22	02	19	-16	-05	09	-05	13	06	15	-08	16	11	-09	-07	12	-15	-05	-01	18	34	18	-04	-06	20
Sen	-02	03	05	05	05	00	-02	-01	-01	08	01	07	05	03	05	07	05	07	06	07	-02	-02	-01	-09	00	00	03	05	01	04
Sex	-02	-02	04	07	-14	-11	04	-08	11	13	-01	13	-03	04	-05	08	01	-01	17	15	-04	11	06	00	-04	-06	-06	11	13	-05
Suc	-01	05	14	19	-20	-13	15	-07	17	11	00	12	-03	03	-03	10	-01	-04	21	22	06	23	12	12	-01	-03	-10	09	21	02
Und	-13	11	-06	05	10	13	04	17	-17	-04	06	01	18	07	17	-02	16	08	-04	-01	12	-11	-04	-06	16	22	17	-02	01	20

Matrix of Intercorrelations Between AI and CCI Scale Means at 64 Colleges

AI Needs Means		CCI Press Means																													
		Aba	Ach	Ada	Aff	Agg	Cha	Cnj	Ctr	Dfr	Dom	E/A	Emo	Eng	Exh	F/A	Har	Hum	Inf	Nar	Nur	Obj	Ord	Ply	Pra	Ref	Sci	Sen	Sex	Suc	Und
1.	Aba	-126	164	206	494	-500	-273	520	-022	069	029	204	342	285	224	007	569	097	-201	393	580	221	310	024	-002	198	-160	070	-366	374	266
2.	Ach	130	-007	102	-150	341	279	-181	047	-023	140	-057	-084	-051	-025	139	-331	045	263	-106	-197	-054	-172	117	218	-010	224	-016	304	-158	010
3.	Ada	-067	058	034	253	016	215	077	178	-190	127	374	232	163	336	374	100	318	226	132	219	107	-043	120	045	402	228	331	135	-025	170
4.	Aff	536	-453	442	297	-001	-262	148	-562	494	568	067	-008	-394	227	-303	-063	-223	131	507	474	-258	381	559	477	-178	-377	-222	328	396	-502
5.	Agg	216	-249	-133	-456	703	325	-615	218	-172	024	-101	-444	-336	-227	153	-645	-102	357	-436	-586	-395	-413	060	-507	-176	280	-044	368	-483	-283
6.	Cha	213	-307	-311	-195	678	423	-659	165	-355	177	122	003	-195	033	248	-285	243	500	-317	-321	-176	-434	058	-201	147	167	333	484	-322	-213
7.	Cnj	-031	142	424	366	-588	-462	621	-214	347	063	-038	086	135	027	-192	428	-248	-359	454	521	083	448	094	318	-141	-224	-322	-380	389	145
8.	Ctr	237	-159	-087	-389	449	382	-349	076	-107	080	028	-213	-120	062	171	-360	121	314	-246	-356	-186	-114	112	095	078	279	201	376	-319	-164
9.	Dfr	021	024	376	533	-558	-361	567	-271	341	234	198	323	148	356	-078	539	026	-205	627	729	155	434	258	209	125	-334	-039	-259	537	130
10.	Dom	454	-435	100	-372	604	205	-485	-121	153	238	-104	-448	-512	-066	-191	-592	-204	355	-194	-379	-507	-183	308	187	-299	052	-180	464	-220	-538
11.	E/A	114	-113	-073	-101	132	-112	000	045	-052	102	108	-169	-056	036	143	108	130	108	033	053	-067	-126	102	-144	032	-080	090	-013	-135	061
12.	Eno	-035	-094	-315	158	208	179	-202	089	-456	195	316	479	151	232	249	147	466	313	023	176	195	-256	-007	-413	362	-100	516	190	-074	110
13.	Eny	-035	-058	-011	-118	094	399	056	065	-054	-070	227	-048	093	227	006	-055	246	153	023	-077	200	-126	178	034	289	116	264	162	098	008
14.	Exh	354	-351	-076	-240	494	104	-345	-050	-079	238	028	-123	-241	015	067	-312	-015	322	-165	-211	-272	-151	187	021	-094	-107	074	321	-195	-305
15.	F/A	303	-193	185	-471	456	053	-351	009	225	046	-262	-504	-409	-308	-092	-452	-391	085	-308	-507	-508	-022	065	298	-455	190	-447	198	-375	-367
16.	Har	076	-012	212	380	-448	-393	270	-252	231	292	140	357	048	138	-093	504	-013	-213	498	596	059	278	096	059	030	-387	-075	-235	255	125
17.	Hum	-055	079	-227	115	-042	052	032	046	-339	102	314	319	246	217	218	433	589	059	103	259	306	-247	-058	-470	491	-061	557	-081	-149	344
18.	Imp	041	-126	-439	-167	560	427	-485	171	-525	070	159	205	003	057	200	-197	431	442	-398	-294	072	-471	-105	-397	280	126	519	357	-356	-028
19.	Nar	166	-050	159	201	-117	-204	016	-241	113	345	083	324	-048	022	-120	227	122	-032	276	386	057	222	035	025	039	-199	032	040	080	050
20.	Nur	000	-002	167	449	-389	-267	408	-245	119	276	308	414	141	356	-001	527	262	-073	526	679	316	247	207	-062	302	-397	208	-147	358	220
21.	Obj	-076	069	-057	023	-069	179	354	-093	085	-090	004	-103	084	233	047	-006	165	013	055	014	349	003	092	026	189	073	178	026	181	045
22.	Ord	080	-009	439	401	-509	-418	554	-264	368	190	104	184	069	087	-231	422	-215	-261	497	605	028	438	172	349	-111	-370	-287	-311	466	053
23.	Ply	477	-500	118	-022	368	067	-242	-393	268	367	-039	-207	-524	055	-238	-374	-118	271	090	-038	-340	054	356	268	-198	-081	-114	498	059	-598
24.	Pra	294	-210	534	238	-079	-087	274	-239	414	233	034	-135	-192	180	-254	-124	-313	066	325	305	-251	278	434	564	-203	-002	-293	125	373	-279
25.	Ref	-157	183	-084	-000	071	198	-062	090	-282	056	192	188	165	056	269	145	529	202	011	068	347	-188	-047	-303	438	208	386	081	-197	415
26.	Sci	-175	337	-033	-325	129	285	-006	351	-101	-310	-145	-254	184	-154	237	-203	032	-041	-354	-417	051	-200	-212	-023	013	552	016	-079	-315	211
27.	Sen	-034	-027	-324	133	213	351	-244	137	-345	175	284	355	112	266	370	041	533	371	072	138	162	-202	029	-318	428	208	527	299	-079	164
28.	Sex	202	-220	020	230	134	-002	-157	-203	-037	471	156	358	-138	102	069	035	165	244	249	290	-123	104	145	068	072	-053	122	346	037	-138
29.	Suc	134	-224	181	547	-110	-171	159	-310	159	442	151	381	-117	233	-055	216	069	156	528	575	-048	300	300	172	063	-197	040	203	404	-110
30.	Und	-154	182	-284	-206	346	488	-222	215	-334	-028	013	081	131	018	348	-158	411	293	-255	-343	152	-348	-139	-137	319	506	363	245	-362	226